



**California ISO**  
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**Proposal to Board of Governors for  
Interim Capacity Procurement Mechanism  
Tariff Filing**

**California Independent System Operator  
Market & Product Development Group  
January 18, 2008**

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# Proposal to Board of Governors for Interim Capacity Procurement Mechanism Tariff Filing

## Section 1 Executive Summary

The purpose of this initiative is to develop and obtain Board of Governors and Federal Energy Regulatory Commission (“FERC”) approval for an interim tariff-based capacity procurement mechanism to be implemented at Market Redesign and Technology Update (“MRTU”) start-up that will enable the California Independent System Operator (“CAISO”) to supplement or “backstop” Load Serving Entity (“LSE”)-based Resource Adequacy (“RA”) capacity procurement as needed for reliable grid operation. The CAISO’s goal is to file this new Interim Capacity Procurement Mechanism (“ICPM”)<sup>1</sup> with FERC on January 30, 2008 and to propose an effective date coincident with the start of the MRTU markets. As the culmination of a lengthy and rigorous stakeholder process, the proposal described in this paper effectively and efficiently meets the objectives of the backstop mechanism, is compatible with both the MRTU market design and the state of California’s RA framework, and attempts to strike a reasonable balance between the divergent views of the CAISO stakeholders.

The CAISO started working with stakeholders on a successor to the Reliability Capacity Services Tariff (“RCST”) in April 2007, and, as a result of these discussions, an “Issues Paper” was posted on May 9, 2007. At stakeholder meetings on May 18 and June 6, 2007, the CAISO discussed issues associated with development of a successor to the RCST.” An initial CAISO proposal for the ICPM (hereinafter referred to as “Proposal #1”) was posted in a white paper on June 29, 2007. Proposal #1 was discussed at a stakeholder meeting on July 25, 2007, and stakeholders provided written comments on August 9, 2007. A second CAISO proposal (hereinafter referred to as “Proposal #2”) was posted in a white paper on October 5, 2007. Proposal #2 was discussed at a stakeholder meeting on October 15, 2007, and on a conference call on October 18, 2007. Stakeholders provided written comments on Proposal #2 on October 24, 2007. A third CAISO proposal (hereinafter referred to as the “Final Proposal”) was posted on November 9, 2007. The Final Proposal was discussed at a stakeholder conference call on November 15, 2007. Stakeholders provided written comments on the Final Proposal on November 21, 2007. A fourth CAISO proposal (hereinafter referred to as the “Draft Board Proposal”) was posted on December 14, 2007. The Draft Board Proposal was discussed at a stakeholder conference call on December 20, 2007. Stakeholders provided written comments on the Draft Board Proposal on January 7, 2008. The present paper presents a revised proposal (hereinafter referred to as the “Board Proposal”) that will be presented to the Board of Governors’ on January 28-29, 2008 for their consideration.

This Board Proposal makes several modifications in the following key areas where the CAISO previous proposals were viewed by stakeholders as being either unsatisfactory, controversial, or both: obligations of an ICPM resource, accountability in the procurement process, scope of reporting obligations, clarity regarding the applicable

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<sup>1</sup> This mechanism is called “interim” because it will include a sunset date at the end of 2010. Prior to that date the CAISO will reopen the matter of backstop procurement to explore possible changes or enhancements to ICPM to reflect changed market conditions.

terms of designations, methodology for determining the Target Annual Capacity Price, formulas for calculating monthly compensation, cost allocation, process to be used to differentiate among multiple resources eligible to be designated, and circumstances where the CAISO supports an LSE including ICPM capacity in its RA showing.

During the stakeholder process stakeholders expressed divergent points of view on many of the elements in the ICPM proposals. It is not likely that this Board Proposal has eliminated all controversy, nor is it likely that there will be unanimous stakeholder support for each and every element of the Board Proposal. However, the CAISO has made significant changes to many of the key elements of the previous proposals and believes that the Board Proposal does a better job of finding the right balance on the controversial items than its predecessor did. It is a reasonable, balanced approach in response to the divergent views expressed by stakeholders.

#### Overview of the Board Proposal:

The CAISO proposes to follow a RCST-type structure with modifications to be compatible with the MRTU market design and facilitate the CAISO's ability to meet Applicable Reliability Criteria ("ARC"),<sup>2</sup> as well as certain other enhancements. The CAISO believes that it makes sense to utilize some of the RCST design elements and make modifications to others in order to adapt it to function effectively under MRTU because stakeholders have invested substantial resources in developing RCST, FERC has found it to be just and reasonable, and many stakeholders have stated a desire to use it as a general framework for developing an interim MRTU backstop capacity procurement mechanism.

The Board Proposal is consistent with RCST in that it provides for the same two primary types of backstop procurement. Under "Type 1" procurement, the CAISO would procure capacity (a) in advance of the compliance year if an LSE has not procured the full amount of its Resource Adequacy Requirement ("RAR") by the time of the required RA showing, or if the portfolio of resources procured by all LSEs in a local area is not sufficient to fully meet the operating needs of the local area, or (b) during the compliance year if an LSE has not procured the full amount of its RAR in the month-ahead time frame. Under "Type 2" procurement, the CAISO would procure additional capacity during the compliance year if a "Significant Event" occurs that creates a need to supplement LSE-procured RA capacity to ensure reliable grid operation. For example, a Significant Event could be a sustained outage of a generation or transmission facility.

The Board Proposal modifies the RCST design to obtain certain improvements and address stakeholder concerns. Key modifications to the RCST are listed below.

Sunset Date – The ICPM tariff provisions would automatically sunset on December 31, 2010. The ultimate goal is to design a long-term backstop mechanism under MRTU that works effectively under, and is aligned with, the long-term RA design. The long-term RA design is currently under discussion at the California Public Utilities Commission ("CPUC"). It may be appropriate to revisit the ICPM sooner than the year 2010,

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<sup>2</sup> As part of ARC, the CAISO must comply with applicable North American Electric Reliability Council/Western Electricity Coordinating Council ("NERC/WECC") requirements, including Minimum Operating Reliability Criteria ("MORC").

depending on the timing of implementation of the long-term RA mechanism and the types of mechanisms being implemented as part of that design.

Voluntary Designation – A resource owner can decline an ICPM designation when offered by the CAISO (i.e., an ICPM designation is voluntary). The CAISO notes that there is no Must Offer Obligation under MRTU.

Pricing – This Board Proposal utilizes a target capacity price for ICPM procurement that has both similarities and differences with the RCST methodology. Prior to this Board Proposal, CAISO had sought various market-based options for ICPM procurement. Proposal #2 significantly changed the RCST pricing approach in favor of a market-proxy price derived from a demand curve and price floor for Type 1 procurement and a uniform price based on going forward costs for Type 2 procurement. The Type 1 demand curve was capped at an estimate of the cost of new entry (“CONE”) in areas at or below their RA requirement (“RAR”). Although that proposal did gain support from some stakeholders, others were not supportive based on concerns that the proposed Type 1 pricing would interfere with issues being addressed in the ongoing California Public Utilities Commission (“CPUC”) RA Phase 2 Track 2 proceeding (henceforth CPUC Proceeding) and would adversely impact forward RA prices in the interim. The CAISO agrees that the ICPM needs to be integrated with the RA design, because the backstop mechanism will influence forward prices and thus procurement and investment decisions. Given, *inter alia*, that the long-term RA design process is ongoing and the difficult task of implementing an appropriate and effective demand curve mechanism, this Board Proposal will not seek market-proxy based pricing of backstop procurement. Rather, it sets forth a pricing method intended to meet the following criteria: (1) falls within the range of just and reasonable prices established by FERC in the RCST settlement; (2) guarantees that any designated resource will cover its “going forward”<sup>3</sup> costs (and potentially more) for the term of designation, and (3) does not create incentives for buyers or sellers to shift procurement to the ICPM.

The proposed pricing model is as follows. Based on the current RA market design and the CPUC penalty structure, as well as estimates of the range of going forward costs, the Type 1 and Type 2 target capacity price offer will be the higher of \$41/kW-year or actual going forward costs plus retention of all eligible market revenues, i.e. not subject to peak energy rent (“PER”) deductions. A resource owner that believes that its going forward costs are greater than \$41/kW-year would be able to file at FERC for a price higher than \$41/kW-year, but the owner would have to justify that price to FERC based on the same cost elements that are considered in setting the \$41/kW-year default price. While the CAISO believes that the \$41/kW-yr price is sufficient to cover the costs for the majority of resources located in the CAISO control area, this change in the ICPM should ensure that the going forward costs of all resources are appropriately paid under an ICPM designation. Also, based on PER calculations under RCST, the CAISO estimates that this new pricing method will potentially increase revenues to units designated relative to the RCST price in the summer peak months. Finally, the CAISO now proposes changing the “shaping factor” so that each month a resource would be paid 1/12 of the target annual capacity price (i.e., the shaping factor would be level throughout all months of the year). The CAISO believes that this is an appropriate modification based on two factors. First, resources will have incentives that are already

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<sup>3</sup> Going forward costs are defined here as the sum of fixed operations and maintenance (“O&M”), ad valorem costs, and insurance costs plus a 10% adder to account for other costs.

aligned in the summer months as the ICPM has no PER deduction for peak energy rents and there are typically higher energy rents during the summer months. Secondly, resource owners have voiced their desire and the CAISO agrees that a level shaping factor better aligns with a fixed-cost based rate for the capacity payment because these costs do not typically vary during the year.

This interim pricing proposal aims to strike a balance between competing stakeholder positions and recognize that long-term RA design issues are still being discussed, which makes it difficult to design a more permanent market-based backstop mechanism at this time. The CAISO will initiate stakeholder discussion over a permanent market-based pricing mechanism for backstop procurement in connection with implementation of a long-term RA design and will seek to ensure that both structures are complementary. The CAISO discusses alternatives that were considered in Section 3 of this document.

Reporting - A detailed report would be posted within 30 days after the CAISO has procured a resource through the ICPM that describes the reason for and duration of the procurement to ensure that all ICPM procurement is fully transparent to the market. The CAISO also would issue a market notice within two business days of any ICPM procurement so that stakeholders would be aware of all ICPM designations. In addition to the posting of ICPM procurement reports, the CAISO also would post a monthly report within 10 calendar days after the end of each month of the non-market commitments of non-RA capacity (i.e., capacity procured manually by the CAISO operators) and repeated market commitments of non-RA capacity (i.e., capacity procured by the Residual Unit Commitment (“RUC”) feature of MRTU) and why such resources were committed. These monthly reports would provide timely feedback to stakeholders and regulators on how well RA resources, by themselves, are meeting the various operational needs of the CAISO. It is expected that this feedback loop would, over time, lead to improvements in the RA programs by their sponsors and less reliance on ICPM procurement. The CAISO also would include in the Operations report that currently is provided to the CAISO Board of Governors at each Board meeting a summary of all ICPM costs and procurement activities.

Summary Tables - The table below provides a summary of the key elements of the ICPM, and illustrates the differences between the two major types of products: Type 1 ICPM Procurement where the CAISO procures forward to backstop the RA process, and Type 2 ICPM Procurement where the CAISO procures during the compliance year to address a Significant Event.

## Key Elements of Interim Capacity Procurement Mechanism

### Type 1 ICPM Procurement CAISO procures Forward to backstop Resource Adequacy Process

Trigger	Term of Designation	Cost Allocation	Target Annual Capacity Price (\$/kW-year)	Compensation Formula
Deficiency in Year-Ahead System showing	1 month up to 5-months (May – Sept)	Costs would be allocated only to the deficient load serving entity	\$41.00, not subject to deductions for peak energy rents	Compensation = Price times Quantity, where:  P = Level Monthly Shaping Factor times Target Annual Capacity Price  Q = Designated Capacity times Availability Factor
Deficiency in Month-Ahead System showing	1 month			
Deficiency in Year-Ahead Local showing	1 month up to 12-months (compliance year is currently Jan – Dec)			
Deficiency in Year-Ahead Local capacity procured due to “Effectiveness Factors”	12-months (compliance year is currently Jan – Dec)	Costs would be allocated to all load serving entities in Transmission Access Charge area based on Load share		

### Type 2 ICPM Procurement CAISO procures during Compliance Year to backstop for a Significant Event

Trigger	Term of Designation	Cost Allocation	Target Annual Capacity Price (\$/kW-year)	Compensation Formula
Significant Event has been determined by CAISO to have occurred	1-month or greater (maximum is up to time CAISO determines Significant Event will remain in effect)	Costs would be allocated to all load serving entities in Transmission Access Charge area (or areas, depending on event) based on Load share	\$41.00, not subject to deductions for peak energy rents	Compensation = Price times Quantity, where:  P = Level Monthly Shaping Factor times Target Annual Capacity Price  Q = Designated Capacity times Availability Factor

## Section 2 Proposal to Board of Governors

### The Board Proposal

The CAISO believes that a backstop mechanism is an appropriate and necessary feature to complement the MRTU market design and has worked with stakeholders to implement a backstop mechanism that would become effective coincident with the start of MRTU. The CAISO proposes to retain the basic RCST framework, and make modifications to improve upon the RCST and adapt it to be consistent with the MRTU market design. Stakeholders have expressed divergent views on many of the elements of the RCST and previous ICPM proposals. The CAISO believes that this Board Proposal represents a balanced approach that would allow the CAISO to engage in efficient backstop procurement of resources, if necessary, to support reliable grid operations.

### Changes made to Draft Board Proposal to create Board Proposal

The CAISO considered stakeholder comments on the December 14, 2007 Draft Board Proposal in developing this Board Proposal. The key changes made to the major elements of the Draft Board Proposal to create the Board Proposal include the following:

- Updated the section that describes the stakeholder process so that it includes the most recent activities and dates (see Stakeholder process section).
- Clarified the formula that would be used for the ICPM Capacity Payment to be clear that, since the CAISO can procure a “partial unit” under ICPM, the amount of capacity that is designated under ICPM would be used to calculate the compensation to be paid rather than the entire rated capacity of the resource, i.e., the total Net Qualifying Capacity of the resource would not be used in the formula (see Formula for Capacity Payment section).
- Clarified the method to be used to break ties when there are multiple resources that are eligible to be designated. The CAISO now proposes to use a random selection rule to determine designation when there are ties (see Selection among Multiple Resources section).

### Changes made to Final Proposal to create Draft Board Proposal

The CAISO considered stakeholder comments on the November 9, 2007 Final Proposal in developing the Draft Board Proposal. The key changes made to the major elements of the Final Proposal to create the Draft Board Proposal include the following:

- Updated the section that describes the stakeholder process so that it includes the most recent activities and dates (see Stakeholder process section and Attachment 2 Key Milestones section).
- Clarified the obligations of an ICPM resource by adding back into the Draft Board Proposal the words “and Ancillary Services” that were inadvertently not included in the Final Proposal but were included in Proposal #2 (see Backstop Product section).
- Changed the pricing so that a resource owner that believes that its “going forward” costs<sup>4</sup> are greater than \$41/kW-year would be able to file at FERC for a price higher than \$41/kW-year, but the owner would have to justify that price to FERC based on

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<sup>4</sup> Going forward costs are defined here as the sum of fixed operations and maintenance costs (“O&M”), ad valorem costs, and insurance costs plus a 10% adder to account for any other going forward costs.

the same cost elements that are considered in setting the \$41/kW-year default price (see Target Annual Capacity Price section).

- Clarified the formula that would be used for the ICPM Capacity Payment and changes from the formula that is currently in the RCST, and inserted the specific Availability Factors from the RCST that are proposed to be used for the ICPM (see Formula for Capacity Payment section).
- Changed the “shaping factor” so that each month an ICPM resource would be paid 1/12 of the target annual capacity price, i.e., the shaping factor would be level throughout all months of the year (see Formula for Monthly Capacity Charge section).
- Clarified the method to be used in the situation where there are multiple resources that are eligible to be designated and cannot be differentiated using physical criteria such as effectiveness. The CAISO would apply a tie-breaking method using a simple sealed-bid auction and pay each accepted offer the price of the highest accepted offer, i.e., a uniform clearing price (see Selection among Multiple Resources section).
- Clarified the circumstances in which the CAISO supports an LSE including ICPM capacity in a RA showing, including a change where the CAISO now supports allowing an LSE to include Type 1 ICPM procurement that was made to address “effectiveness factors” in its RA System showing (see Allowing ICPM Capacity to be included in RA Showings section).

### **Changes made to Proposal #2 to create Final Proposal**

The CAISO considered stakeholder comments to the October 5, 2007 Proposal #2 in developing the November 9, 2007 Final Proposal. The key changes made to the major elements of Proposal #2 to create the Final Proposal include the following:

- Clarified the obligations of a resource that is designated as an ICPM resource (see Backstop Product section).
- Changed the procurement process to include a report on ICPM designations that would be sent to the Board of Governors for each Board meeting (see Process and Trigger for Backstop section).
- Added text to clarify the definition of a Significant Event and the examples of events that the CAISO might evaluate to determine whether a Significant Event has occurred (see Definition of Significant Event section).
- Added a new requirement that the CAISO would issue a market notice within two business days of procurement, revised the reporting such that all market commitments of non-Ra capacity would be reported, and added Exceptional Dispatch to the type of procurement information that would be reported (see Reporting section).
- Revised the text to clarify that the term of a designation for a deficiency in a year-ahead system showing is from one month to up to five months, and the term for a deficiency in a year-ahead local showing it is from one month to up to 12 months. Also clarified that a procurement to address an “effectiveness” issue is for a 12 month term (see Committed Term of Payments section).
- Changed the pricing such that there would be one uniform flat price for both Type 1 and Type 2 procurement, set at \$41/kW-year, with no deductions for peak energy rents. For Type 1 procurement there would be a simple auction to break ties if needed at the \$41/kW-year price offer (see Target Annual Capacity Price section).
- Clarified that If an LSE causes the need to procure under the ICPM due to a deficiency in its RA showing, whether for system (year-ahead or month-ahead) or local, that LSE is charged with all of the cost of ICPM procurement, including any

“lumpiness” of procurement, i.e., none of the cost is spread to other LSEs (see Allocation of Costs section).

- Removed the provision for a Significant Event where the CAISO would seek to first charge an LSE that was deficient in a previous RA showing but for which ICPM procurement was not made initially because there was sufficient RA capacity in aggregate (see Allocation of Costs section).
- Clarified the circumstances in which the CAISO supports an LSE including ICPM capacity in a RA showing (see Allowing ICPM Capacity to be included in RA Showings section).

### **Stakeholder Process**

A stakeholder outreach effort was initiated in April 2007. Stakeholder meetings were held on May 18, June 6, July 25 and October 15, 2007, and conference calls were held on October 18, November 15 and December 20, 2007, to formally gather input.

An “Issues Paper” was posted on May 9. Proposal #1, Proposal #2, the Final Proposal and the Draft Board Proposal were posted on June 29, October 5, November 9 and December 14, 2007, respectively.

Stakeholders provided formal written comments on May 25, August 9, October 24 and November 21, 2007 and January 7, 2008. These comments were considered in preparing this Board Proposal. All stakeholder comments can be found at <http://www.caiso.com/1bc5/1bc5db284cc80.html>. The most recent stakeholder written comments were received on January 7, 2008 from AReM, CLECA, CMUA, Constellation, CPUC, Dynegy, IEP, Reliant, PG&E, SCE, TURN and the Cities of Anaheim, Azusa, Banning, Colton, Pasadena and Riverside, California.

All of the documents described in this section, as well as the materials that were posted for the seven stakeholder meetings and conference calls, can be found at <http://www.caiso.com/1bc5/1bc5db284cc80.html>.

Attachment 1 provides a list of acronyms used in this paper. Key milestones for the ICPM tariff filing are provided in Attachment 2.

### **Evaluation Criteria**

To evaluate options and provide a foundation for a proposal, the CAISO used the following criteria:

- Improve the definition of the interim capacity product;
- Provide transparent procurement prices;
- Minimize reliance on backstop procurement where possible by allowing LSEs to procure interim capacity through bilateral transactions;
- Ensure that neither buyers nor sellers have an incentive to defer RA transactions to the ICPM; and
- Minimize administrative costs and implementation issues.

## **Need for Backstop Mechanism**

The backstop described in this proposal is an appropriate mechanism to complement the MRTU market design. It is necessary as a last resort to enable the CAISO to maintain reliable grid operations: (1) in the event LSEs do not meet RARs; (2) RA resources do not meet specific local reliability needs; or (3) conditions change or events occur during the operating year and create a need for the CAISO to procure capacity in order to maintain reliable operations.

Although RA programs are in place, there may be instances during the year where RA resources are not sufficient to meet all of the operational needs of the CAISO and allow it to meet ARC. Without a flexible means to procure capacity to address unforeseen or changed circumstances or any inefficiencies or deficiencies in RA programs or showings, the CAISO could be placed in the position in the day-ahead time frame of planning for the interruption of firm load or needing to obtain access to non-RA Participating Generator Agreement (“PGA”) resources. The CAISO believes that (1) it is necessary to allow the CAISO the ability to procure resources when such instances occur in order to maintain reliable operations, (2) it is prudent to have the ICPM in place at the start of MRTU implementation, and (3) the CAISO should provide feedback on such use of any backstop procurement to the CPUC and Local Regulatory Authorities (“LRAs”) so that they can take such information into account in designing or modifying RA programs in the future.

## **Proposed Filing Date**

On January 28-29, 2008, the CAISO intends to seek approval from the CAISO Board of Governors regarding the policy elements of an ICPM and to make a tariff filing reflecting those elements of policy. If such approval is granted, the CAISO would develop the appropriate tariff provisions and make a tariff filing on January 30, 2008. The CAISO is proposing to implement the ICPM on the effective date of MRTU implementation.

## **Effective Date**

In the ICPM tariff filing the CAISO proposes to implement the ICPM on the effective date of MRTU implementation.<sup>5</sup>

## **Backstop Product**

The CAISO proposes to procure a “capacity only” product, under a tariff-based schedule for service. The CAISO would be paying for a call option on the capacity of a resource. This obligation would be comparable to the RA-based offer obligation. Specifically, a resource procured under the ICPM would have a daily obligation to submit Economic Bids or Self-Schedules in the Day Ahead Market<sup>6</sup>. The Bid and Self-Scheduling obligation will extend into Real-Time for certain units, including Short Start Units, Dynamic System Resources, and committed resources with unloaded ICPM capacity, while Long-Start Units that remain uncommitted after the Day Ahead Market will be released from any further Bid obligation. Similar to RA Resources, ICPM resources would be required to submit a \$0 availability bid in RUC and not be eligible for Frequently Mitigated Unit (“FMU”) Bid Adders.

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<sup>5</sup> MRTU is scheduled for a “go live” date of March 31, 2007 for an initial trade date of April 1, 2008.

<sup>6</sup> The ICPM resource is expected to offer bids or self-schedule the full quantity of ICPM capacity for both Energy and the Ancillary Services that it is qualified to provide.

## **Sunset Date**

The ICPM would automatically sunset on midnight on December 31, 2010. The CAISO would retain all Section 205 rights with respect to the ICPM.

This mechanism is intended to be an interim mechanism. The ultimate goal is to design a backstop that works under the long-term RA market structure. This topic is currently under discussion at the CPUC and the CPUC is expected to issue its initial direction in an Order scheduled for early 2008. It may be appropriate to revisit the ICPM sooner than the year 2010, depending on the timing of implementation of the long-term RA mechanism and the types of mechanisms being implemented as part of that design.

## **Use of Backstop Authority**

The CAISO would use the new backstop authority to procure capacity in the circumstances described below.

Type 1 Backstop to the RA Process where the CAISO procures forward capacity to cure: (1) a RA deficiency that results if an LSE fails to meet all of its respective applicable local and system RA capacity requirements, or (2) a RA deficiency that results if the collective RA procurements by LSEs fail to meet the CAISO ARC, even if the LSEs have collectively met their RA requirements. For example, the CAISO would make sure that LSEs under the CPUC's jurisdiction procure RA resources necessary to meet the 115 percent Reserve Margin established by the CPUC. The CAISO also would make sure that the capacity of the procured RA resources meets the capacity requirement established by the applicable LRA for each LSE that is under that LRA's jurisdiction. Action by the CAISO would include:

- An LSE has not procured sufficient RA capacity on its own to meet its full RAR and is "short" in its RA showing, or otherwise violates a "counting rule" or "counting constraint" like the Path 26 counting constraint (i.e., the LSE fails to make up an identified deficiency in an RA showing, whether annual local, annual system, or monthly system, after it has been given an opportunity to cure the deficiency).
- The aggregate amount of resources that are contracted for in a local area by the applicable LSEs and included in their RA showings is in compliance with the aggregate MW amount of the RA capacity requirement, but the CAISO still needs additional capacity to comply with ARC due to the "effectiveness" of the individual units that have been procured by LSEs and now form the aggregate portfolio that the CAISO has available for its use.<sup>7</sup>

Type 2 Backstop for Significant Event, where the CAISO procures capacity to address a single event, or a combination of events, that is determined by the CAISO to either result in a material difference from what was assumed in the RA program for purposes of determining the RA capacity requirements, or a material change in system conditions or CAISO-Controlled Grid Operations, that causes, or threatens to cause, a failure to meet ARC absent the recurring use of a non-RA resource(s) on a prospective basis.

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<sup>7</sup> The CAISO also may need to procure backstop capacity in the circumstance where LSEs may be compliant with RA requirements, but insufficient capacity was procured in a specific load pocket. This issue can arise because an LRA may allow the aggregation of load pockets in a particular Transmission Access Charge ("TAC") area for procurement compliance purposes. For example, the CPUC allows for the aggregation of load pockets in the Pacific Gas and Electric Company TAC area.

**Process and Trigger for Backstop**

It is important that the process used to procure backstop capacity be transparent. The CAISO may need to procure capacity to address three broad needs. As a result, the mechanism and criteria leading to a procurement decision should appropriately be based on triggers that align with the underlying need. The variety of types of events that might initiate the proposed process is summarized in the table below.

<b>Event Type</b>	<b>Backstop Purpose</b>	<b>Trigger</b>
<u>Type 1 Backstop to RA Process:</u> (a) LSE Procurement Shortfall  (b) Local Effectiveness Deficiency	(a) Ensure that RAR is met  (b) Ensure that RAR is met	(a) Known deficiency in LSE RA showing that it is not cured by the LSE  (b) Engineering analysis identifies a deficiency in meeting the local capacity needs
<u>Type 2 Backstop for Significant Event</u>	Ensure that CAISO can meet ARC	A single event, or a combination of events (see definition of Significant Event in subsequent section)

The CAISO proposes to follow the process described below for each situation.

Type 1 Backstop to RA Process

(a) LSE Procurement Shortfall

The need for this capacity arises because one or more LSEs have not reflected sufficient RA resources in their RA showings to meet their obligations as established by their respective LRA. Therefore, the CAISO needs to procure capacity on behalf of the LSE(s).

- a) The CAISO would analyze the showings submitted by LSE(s) to determine if there is a deficiency. The CAISO will make its assessment based on the total system RA needs, i.e. other LSEs may have cured the deficiency through over-procurement.
- b) If there is no deficiency, the CAISO would take no action(s).
- c) If there is an aggregate deficiency, the CAISO would: (1) notify the Scheduling Coordinator (“SC”) for the LSE(s) and the LRA(s) of the deficiency and provide an opportunity for the LSE(s) to cure the deficiency, (2) if the LSE(s) does not cure the deficiency, the CAISO would proceed to procure resources to meet the deficiency.
- d) The CAISO would procure the minimum capacity necessary to meet RA requirements, subject to limitations on partial unit purchases,
- e) Costs would be charged to the LSE(s) that contributed to the deficiency (cost allocation is described later in this paper).

(b) Local Effectiveness Deficiency

The CAISO expects that LSEs will acquire sufficient capacity at levels that meet the established locational needs. However, it is possible that the combination of resources acquired will not be fully effective in addressing all contingencies that underlie the local capacity requirements. Therefore, the need for backstop capacity arises because the local RA resources procured by LSEs are found to be ineffective in meeting all contingencies.

- a) The CAISO would analyze the showings submitted by LSE(s) to determine whether additional local capacity is needed beyond the aggregate amount procured by the LSEs that have complied with the applicable RA requirements.
  - I. The CAISO will load the resources procured by LSEs and included in their annual local showings into its grid model and analyze the portfolio of resources against the same study assumptions used to establish the local capacity requirement to see if sufficient capacity has been procured in the local area to meet the local capacity requirement.
- b) If there is no deficiency, the CAISO would take no action.
- c) If there is a deficiency, the CAISO would procure the minimum sufficient capacity to alleviate the deficiency.
- d) All costs would be charged to the LSEs based on their proportionate contribution to Transmission Access Charge ("TAC") Area peak Demand.

### Type 2 Backstop for Significant Event

The need for this capacity arises because the CAISO has experienced a set of operating conditions that cannot be met within its obligations to meet ARC. Therefore, the CAISO proposes to perform an assessment of whether an event or events have occurred that would constitute a Significant Event (see definition in subsequent section). Stakeholder comments have indicated their desire to engage in a dialog with CAISO management regarding any procurement of ICPM capacity under a Significant Event, and to have a report on ICPM designations sent to the CAISO Board of Governors. To address these points, the CAISO proposes to utilize a three-step designation process to initiate backstop procurement under a Significant Event and provide ICPM summary reports at each CAISO Board of Governors meeting.

#### Step One:

- I. CAISO would identify an event or events that may violate an assumption in the RA program or result in a material change in system conditions or in CAISO-Controlled Grid Operations.
- II. CAISO would evaluate if that event or events cause, or threatens to cause, a failure to meet ARC.
- III. Based on i and ii, the CAISO would determine if the event constitutes a Significant Event (see the definition below of Significant Event for more details).
- IV. If the answer is "no," the CAISO would take no further action.
- V. If the answer is "yes," the CAISO would determine if the Significant Event is of an enduring nature that indicates the need for procuring backstop capacity on a forward basis.
- VI. If the answer is "no" the CAISO would take no further action.
- VII. If the answer is "yes" the CAISO would (1) procure needed backstop resources on a forward basis for a period of 30 days, and (2) post an explanation of the Significant Event and inform the market participants of the need to procure the backstop capacity as well as the expected duration of the Significant Event.

#### Step Two:

- If the CAISO determined in completing its explanation of the Significant Event that the event has an expected duration greater than 30 days, then it would extend that designation for another 60 days (for a total of 90 days from beginning of Significant Event).

- During this extended time, market participants would have the opportunity to review the CAISO explanation for the Significant Event and engage in a dialog with the CAISO to understand the basis for that designation.
- Market participants would be encouraged to provide solutions that meet the CAISO operational needs. These would include options such as; procurement of capacity by LSEs, operational fixes by Participating Transmission Owners (“PTOs”), additional Demand Response (“DR”), etc.

Step Three:

- I. Before the end of the 90-day period, the CAISO would conduct an assessment of proposed solutions to determine whether they sufficiently mitigate the ongoing need for the designated capacity.
- II. If the answer is “yes”, and a specific solution is undertaken, the CAISO would not extend the designation of capacity procured for the Significant Event.
- III. If the answer is “no” in total or partially, the CAISO would extend the necessary capacity for the remaining expected duration of the Significant Event.

The CAISO Board of Governors will be provided with a high-level summary report on ICPM costs in the existing Operations informational report that is provided to the Board for each Board meeting.

Note: The CAISO proposes to report instances where it has procured capacity under the new backstop mechanism. The Reporting section below provides the details regarding the report content. In addition, the CAISO does not expect that it will need to designate a resource for more than one instance during the calendar year. If this were to be necessary, the CAISO proposes to fully describe why the additional designation is required in the proposed report required in step one of this process.

**Definition of Significant Event**

While some stakeholders may feel it is preferable for the successor mechanism to be more prescriptive and/or have more specificity than the RCST, particularly with regard to Significant Event designations, the CAISO believes that adequate flexibility is necessary to avoid the unintended consequences of an overly prescriptive approach for Significant Event designations. A flexible means is needed to address unforeseen or changed circumstances or inherent inefficiencies or deficiencies in RA programs where lack of action by the CAISO to address a known problem could place the CAISO in the position, in the Day-Ahead timeframe, of planning for the interruption of firm load or failing to meet ARC. The CAISO proposes that a sufficiently flexible definition of Significant Event be used, which would allow the CAISO to address contingencies and unexpected system conditions and ensure its ability to satisfy reliability requirements.

Similarly, the CAISO does not want to have a prescriptive “hard trigger” for a Significant Event that does not allow prudent judgment in avoiding designations that are not required. Accordingly, a hard trigger must be avoided in favor of using “indicators” serving as warnings that a designation *may* be required. Also, a hard trigger could result in ICPM designations based on past events that are not continuing in the designation period. The purpose of ICPM is to designate units that are needed to meet prospective reliability requirements based on Significant Events that have occurred and which will continue in the future. Stakeholders have indicated interest in knowing what the CAISO would use for thresholds for making decisions on designations. Unfortunately, electric system operation does not always present

itself with a consistent set of completely black and white conditions that would make hard triggers always possible. It is appropriate to enable decisions to be made using latest available information without restricting operations (based on triggers) to prescriptive decisions that would ultimately not be prudent. For example, suppose that there was a hard trigger and the threshold was that the operating condition had to be experienced four times before a Significant Event could be designated. If a section of the Third AC Transmission Line was taken out of service by a plane crash (which obviously would take a long time to repair), after analysis the CAISO may determine that it is appropriate to declare that a Significant Event has occurred, even though the event happened just one time and the operating condition was experienced just one time. A hard trigger of four times would not allow designation. On the other hand, if there were a hard trigger of "one time," there may be events that occur where it would not make sense to designate because the operating condition is not expected to be recurring.

The concept of Significant Event is an element that was discussed at length at the May 18, June 6, July 25, and October 15 2007 stakeholder meetings. The CAISO acknowledges that this reason for backstop procurement by the CAISO should be appropriately defined. However, establishing a clear definition is challenging due to the very nature of unforeseen events that are nevertheless high impact events that cause the CAISO to be unable to meet requirements for reliable system operations. Most parties have reflected in their written comments that it is important that this concept be well defined, and a detailed listing be provided, if possible, of examples of items that could trigger procurement for a Significant Event. The CAISO has provided such a listing and attempted to refine that listing to reinforce its intention that ICPM procurement will be based on a determination of need for additional capacity and not specifically triggered by the events provided as examples. These examples, therefore, represent a compendium of indicators that warrant further investigation and possible real-time action. That action may include further, closer monitoring, or it may be apparent that some designation of resources is prudent. If procurement designations are made as a result, such designations must be reported in a manner that promotes appropriate visibility and opportunities to make long-term adjustments to the RA Program.

On the contrary, making these indicators the precursors of definite (and in some cases unwarranted) procurement designations is imprudent. The CAISO cannot support absolute prescriptive triggers unless they provide maximum assurance that the CAISO can meet ARC. The CAISO, therefore, strongly advocates a definition of Significant Event that incorporates expert judgment and informed decision making.

The CAISO proposes that the ICPM tariff language would include the following definition of Significant Event:

*Significant Event is a substantial event, or a combination of events, that is determined by the CAISO to either result in a material difference from what was assumed in the RA program for purposes of determining the RA capacity requirements, or produce a material change in system conditions or in CAISO-Controlled Grid Operations, that causes, or threatens to cause, a failure to meet ARC absent the recurring use of a non-RA resource(s) on a prospective basis.*

Provided below, is information on the events or similar types of events that the CAISO might evaluate to determine whether a Significant Event has occurred. This language below would not be included in the ICPM tariff.

1. Loss of a facility, for any cause, that affects its capability, including but not limited to:
  - a. Loss of a local RA resource after annual LSE RA showing
  - b. Lack of RA resources causing a shortage of capacity to meet required operating reserves (accumulated total, including ongoing scheduled and forced outages) after monthly LSE RA showing
  - c. Loss of a facility, CAISO Controlled or not, that affects the deliverability of RA, Reliability Must-Run Agreement (“RMR”) or other resource available to the CAISO, or affects the operation of the grid
2. Grid study error, forecast changes, incorrect assumptions, bad data, or modeling inaccuracies, including, but not limited to:
  - a. An official change in the adopted Load forecast by the California Energy Commission (“CEC”) after it has been used in RA showings by LSEs
  - b. Error in load distribution factors
  - c. Voltage or reactive resource modeling errors or resource changes
  - d. Errors relative to deliverability of RA resources to load
  - e. Changes in non-CAISO Controlled Grid affecting previous assumptions
3. Changes in applicable NERC or WECC reliability criteria or operating policies affecting the CAISO
4. Insufficiency of RA units in RUC resulting in recurring use of non-RA units (Note: The use of non-RA units as described above would be an indicator for the CAISO to then assess if a Significant Event has occurred. Having to use non-RA resources in RUC may mean that there are not enough RA resources and the CAISO has to call on non-RA resources in RUC or that there are sufficient RA resources but the economic optimization used in RUC selects a non-RA resource.)
5. RUC and any subsequent Hour-Ahead Scheduling Procedure (“HASP”) or real time run of the Security Constrained Unit Commitment (“SCUC”) cannot converge by themselves with only RA units and requires manual addition by the CAISO of non-RA units. (Note: Same clarifying comment applies as at the end of #5 above.)
6. Change in federal or state law or regulation; court action; or imposition of environmental restrictions that affect the operation of resources

For item 2 above, errors occur, and they occur in many forms and for many reasons. While the CAISO uses its best efforts to avoid errors, the reality is the CAISO and others can perform studies and/or make use of other efforts to anticipate capacity needs, which are subsequently found to be incorrect. However, once identified, the CAISO has an obligation to take corrective actions to protect system reliability. Who or why the error occurred is largely irrelevant. As noted, what is relevant is that the consequences of the error are mitigated as appropriate and until the RA program can be adjusted as needed.

Regarding items 3 and 6 above, the CAISO notes that potential changes in such things as criteria, laws or regulation do not arise in a vacuum or short period of time. However, the actual imposition of a change can occur in a relatively short time. Even so, taking action to change a program so involved and complex as the RA program must reasonably occur only *after* the decision is officially communicated. It is reasonable to presume that implementing decision could take some extended process in order to work out details into existing programs, and subsequent to that, some time to incorporate changes into software of

advanced applications (*i.e.*, at the CAISO, as well as with Market Participants and other interested parties). Even if this were not the case and criteria or regulatory changes could be easily and quickly translated into the RA program, a “decision” could occur shortly after a RA program has been set in place for the upcoming compliance year. LSEs will have already procured to meet the RAR for that compliance year. If a “decision” happens after the wheels have been set in motion for the next compliance year, entities that have RA programs would then need to take action to revise their program for the subsequent compliance year. This alone can take many months. As a result, there may not be sufficient time to incorporate such a change in the compliance year. That raises the issue of how the CAISO would operate the system and meet ARC if this happens? Stakeholders suggest that the CAISO should be able to monitor such items and that there is time for the “CAISO to change the RA program.” It is not the CAISO that has a RA program. The CAISO cannot just simply change an RA program. The RA programs are under the jurisdiction of the CPUC and LRAs, and they have their own processes in place for establishing and changing RA requirements. Those entities would need to change their programs, and that takes time.

For items 4 and 5 above, stakeholders have expressed concern that it is unclear how the CAISO intends for these events to be considered, or are inappropriate to include because they either are defects in the MRTU hardware/software that should be fixed, or transitory daily operational issues for which it is not appropriate to backstop with a month or longer of backstop capacity. These items are examples of indicators potential Significant Events, not hard triggers in and of themselves. They are indicators of something that may warrant closer scrutiny and *possibly* some action, but not necessarily an ICPM designation. They may be indicators of issues that are rooted in forecast or modeling errors, or greater than expected outages, or some other unforeseen conditions. Granted, while these other conditions may be indicators of a Significant Event, it is never a bad thing to have corroboration or alerts to warrant further investigation. For example, the knowledge of a facility outage may not immediately include the encroachment on flow limits being managed by SCUC, or may not initially recognize the A/S impact that would otherwise be expected to be covered by RUC. The CAISO would be remiss not to utilize to these advanced applications to their full potential. That utilization includes evaluation of causes for non-convergence when convergence is expected. It is important to remember that the CAISO’s assessment of non-convergence does not necessarily equate to the designation of units under the ICPM.

To say that such non-convergence is an indication of MRTU defects and therefore should not be addressed is short-sighted. It is essentially the same as saying that if there are defects found in the RA program that they should not be addressed. It is appropriate that the CAISO be enabled to deal with those issues appropriately if and when they occur until such time as the problems can be fixed. Some problems take more time to fix than others. Again, any subsequent procurement designations resulting from the CAISO’s need to address a RUC, HASP, or other convergence issue would be reported in a manner that promotes visibility and provides opportunities to make long-term adjustments in whatever programs or applications that may be deficient. In summary, the key points are: (1) these items are not hard triggers, but rather indicators; (2) such indicators would be analyzed by the CAISO; and (3) all commitments of non-RA capacity will be reported in the monthly use of non-RA capacity report (as described elsewhere in the Draft Board Proposal), which provides a feedback loop to the CPUC, LRAs and stakeholders.

While the CAISO understands the desire of certain stakeholders for specificity in the types of Significant Events that may occur, the CAISO notes that parties must consider that the ICPM is first and foremost a backstop procurement mechanism. Consistent with its overall

requirement to conduct its affairs in accordance with Good Utility Practice and in a way that meets ARC, the CAISO must be able to respond to any circumstances that threaten our ability to maintain reliable operations. As proposed, the Significant Event procurement process is of limited scope and limited duration. Accordingly, it provides the appropriate balance – enabling the CAISO, as appropriate, to obtain necessary resources in a timely and efficient manner, while respecting the boundaries of the RA programs established by the CPUC and LRAs.

## **Reporting**

The CAISO proposes to use the reporting framework that is in the RCST for the ICPM, and to augment that reporting by posting additional information so that effective feedback can be provided to the CPUC and LRAs. ICPM reports would appropriately maintain the confidentiality of market sensitive information, while providing enough data so that the CAISO, stakeholders, the CPUC and LRAs can consider the effectiveness of RA programs and make improvements to those programs in the future.

### **Report 1: Market Notice within Two Business Days of Each Designation**

The CAISO would issue a market notice within two business days of procuring a resource(s) to address a Significant Event. The market notice would include a preliminary description of what caused the Significant Event, the name of the resource(s) procured, the preliminary expected duration of the Significant Event, the initial designation period, and that a “designation report” (Report 1 above) is being prepared.

### **Report 2: Designation of a Resource under the ICPM Tariff**

The “designation report” would be posted to the CAISO web site within 30 days of when the CAISO has procured a resource through the ICPM tariff authority. The CAISO would provide a market notice of the availability of this report. The report<sup>8</sup> would include the items listed below.

1. Description of the reason for the designation (the categories are: LSE Procurement Shortfall, Local Effectiveness Deficiency, or Significant Event, and the report would discuss why it was necessary to procure under the ICPM authority)
2. If the reason for the designation is for a Significant Event, the description will include a discussion of the:
  - a. Event or events that have occurred (what happened, what is going on, what criteria was violated, why the CAISO has procured backstop capacity, and how much has been procured)
  - b. Initial assessment of the expected duration of the Significant Event
  - c. Duration of the initial designation (30 days)
  - d. Whether the initial designation has been extended (such that the backstop procurement is now for more than 30 days), and, if it has been extended, the length of the extension (days)
3. The following information would be reported for all backstop designations:
  - a. Resource name
  - b. Amount of capacity procured (MW)
  - c. Date capacity was procured (month/day/year)
  - d. Duration of the designation (days)

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<sup>8</sup> The CAISO does not expect that it will need to designate a resource for more than one instance during the calendar year. If this were to be necessary, the CAISO proposes to fully describe why the additional designation is required.

e. Price

Report 3: Non-Market Commitments and Repeated Market Commitments of Non-RA Capacity and Why it was Committed

This report would be posted to the CAISO web site within 10 calendar days after the end of each month, looking back at previous month. It would report on the following:

1. Any non-market commitments of non-RA capacity (i.e., capacity procured manually by the CAISO operators).
2. All market commitments of non-RA capacity (i.e. capacity procured by RUC).

This report would not include commitments of RA capacity, RMR capacity, or capacity that has been designated as ICPM. The CAISO would provide a market notice of the availability of this report. The Non-Market Commitments and Repeated Market Commitments of Non-RA Capacity during the previous month report would include the types of information listed below.

- Resource Name
- IOU service area and local area (if applicable)
- Maximum capacity committed over the event (MW)
- How capacity was procured (RUC, Exceptional Dispatch)
- Reason capacity was committed
- Were all RA resources used first? If not, why not?

Some stakeholders have asked if the CAISO, CPUC and CEC can provide additional, historic actual data to assist stakeholders in assessing how well RA programs are performing and to help improve future RA programs (see the list below). The data may be provided to as fine a level of granularity as daily (if it changes daily), with the information posted to a public web site. The CAISO notes that some of this data is already posted to the CAISO web site, and, where applicable, the hyperlink to access the information on a CAISO web site is provided below. Some of this data may also be available on the web sites of the CPUC and CEC. The CAISO is willing to work with the CPUC and CEC to explore the extent to which such information is available, and whether it can be posted to a public web site. For the CAISO, the extent to which this information already exists in CAISO systems, is readily available, and has no legal restrictions to posting it, will be a determining factor on whether this information is posted by the CAISO. The types of data that have been requested be posted are:

Historic Actual Data

- Net imports
- Demand response/interruptible load – The CPUC has this information, which is provided to the CPUC by the investor-owned utilities. The CPUC periodically issues reports on this information. The CPUC would need to post this data.
- Actual load, by zone or location
- Aggregate wind contribution on peak
- Transmission outages  
<http://www.aiso.com/docs/2005/09/27/2005092712073824778.html> (click on "Transmission Outage Reports")
- Generation outages <http://www.aiso.com/unitstatus/index.html>

Allocation Data

- Import allocations <http://www.aiso.com/1c44/1c44b2dd750.html>

- Aggregate Path 26 allocations – The CPUC has this information as it was developed to implement a CPUC Order to establish a counting convention that is applicable to the LSEs that are under CPUC jurisdiction. The CPUC would need to post this data.

**Committed Term of Payments**

The term of payments to an ICPM resource varies from one month to up to 12 months depending on the term of the Significant Event designation or the type of RA requirement deficiency being remedied. For example, where no LSE is individually deficient in its year-ahead showings, but the aggregate portfolio due to relative effectiveness factors nevertheless fails to permit compliance with Reliability Criteria applied in the Local Capacity Technical Study, the CAISO will procure the necessary Local Area Capacity for the entire calendar year. However, where an LSE’s year-ahead local showing demonstrates a failure to procure up to its allocated Local Area Capacity requirement throughout the year, and that deficiency precludes compliance with the Reliability Criteria, the CAISO would procure capacity for a year term to resolve the deficiency. Where, in contrast, the LSE’s year-ahead local showing demonstrates a failure to procure its allocated Local Capacity requirement only for selected months, and those deficiencies preclude compliance with Reliability Criteria, the CAISO would procure the needed capacity only for the months in which the showing is deficient. The objective is to ensure that LSE and CAISO procurement, in combination, satisfies on an annual basis the quantity of Local Area Capacity identified in the CAISO’s Local Capacity Technical Study.

The table below describes terms applicable for specific applications of the backstop mechanism.

<b>Situation:</b>	<b>Committed Term:</b>
Deficiency in: a) Year-Ahead System showing (including violation of Path 26 counting constraint)  b) Year-Ahead Local showing 1) “short” in showing deficiency 2) effectiveness factor deficiency c) Month-Ahead System showing (including violation of Path 26 counting constraint)	a) 1 month up to 5 months (May-Sept) consistent with the duration of the deficiency b) 1) 1 month up to 1 year 2) 1 year c) 1 month
A Significant Event” has occurred	Minimum of 1 month, and maximum of up to time event will remain in effect

An ICPM designation made in a given compliance year to backstop the RA process would not extend into the subsequent compliance year. Such procurement would not be extended beyond the end of the year because the CAISO would only backstop for RA for the immediate compliance year. In the event of a deficiency in a month-ahead RA showing for the month of December, the CAISO would only procure for that one month (i.e., the procurement would not extend into January of the next year). However, the term for procurement under a Significant Event would extend for the term of the event, and that procurement could extend into the subsequent compliance year.

## Target Annual Capacity Price

In Proposal #2, the CAISO proposed a backstop price that had the following features:

- Two types of pricing, corresponding to “Type 1” procurement for forward RA backstop and “Type 2” procurement during Significant Events.
- Type 1 procurement was based on a sloped demand curve with a price floor. The demand curve was to be capped at CONE, with the entrant unit represented by a 50 MW simple cycle CT; the price floor was based on the fixed O&M costs of the same unit. The sloped region of the demand curve was the straight line between the point determined by CONE and the RA requirement and a zero price intercept. The price was set by clearing the actual capacity (whether RA or non-RA) in each local and system area against the demand curve/price floor. This price setting method ensured that high backstop prices were correlated with scarcity of capacity and low backstop prices with surplus of capacity.
- Type 2 pricing was based in all cases on the fixed O&M costs of the 50 MW simple-cycle CT.

These pricing proposals attracted substantial stakeholder comment. With respect to Type 1 pricing, stakeholders generally divided into two groups: those that accepted the sloped demand curve methodology, but had comments on elements of the demand curve; and those that opposed the demand curve methodology and proposed an alternative pricing basis. Within both groups there were several major substantive concerns: the interaction of the ICPM proposal with the ongoing CPUC RA Phase 2 Track 2 proceeding; the specifications of the demand curve, in particular the identification and cost analysis of the new entrant unit; and the impact of the demand curve price on forward RA prices. There were fewer comments on Type 2 pricing. Stakeholder comments are summarized and discussed in Section 3.

In principle, the CAISO believes that a sloped demand curve approach for valuation of capacity and the proposed price clearing method is potentially a reasonable market-proxy pricing methodology for backstop procurement in the context of the annual bilateral RA market (and possibly with other long-term RA market designs). There is no other administratively simple method for deriving stable backstop prices on the basis of market supply conditions without potentially complicated additional rules (e.g., a last-minute backstop auction would need potentially complicated ex ante or ex post market power mitigation rules, as discussed in Section 3).

However, as a practical matter, several stakeholder concerns about the sloped demand curve and the pricing methodology are difficult to resolve at this time. First, there is the issue of the ongoing CPUC proceeding, in which the CPUC is addressing long-term RA design, including issues regarding a centralized capacity market. The issues being addressed there include many of the same issues of capacity pricing being raised here. Although several stakeholders have shown great latitude in their comments to accommodate the proposed Type 1 mechanism as an interim measure, others, including the CPUC, have expressed discomfort with introducing a type of market-based capacity pricing that could be interpreted as suggesting a preferred capacity market design while the CPUC proceeding is ongoing. That was, as emphasized in the prior White Paper, not the objective of the ICPM Type 1 pricing proposal, which was developed based on the CAISO’s evaluation of the various alternatives and determination that a market-proxy based pricing approach would generate prices that reflected capacity supply conditions, thereby balancing the opposing positions of

stakeholders. However, CAISO certainly agrees that after the CPUC decision on long-term RA market design is known, there should be a clearer opportunity to design a long-term market-based backstop mechanism that is closely aligned with the incentives created by the forward RA market design and which can be implemented in coordination with implementation of that long-term RA design.

The second issue is the relationship of the proposed Type 1 pricing and the prices in the forward RA markets as they currently operate. Although both RCST and ICPM are intended as backstop procurement, there is no way to establish a transparent backstop price that does not have some impact on forward prices.<sup>9</sup> Several stakeholders commented on the impact of the RCST price on forward prices and hence the CAISO, although lacking price data on the forward RA markets, presumes that the proposed ICPM prices would have some similar effect as well. In fact, as noted in Proposal #2, the impact of a well designed backstop pricing mechanism would be to support efficient forward RA procurement, meaning that the effect of market power (if any) in the forward RA market would be reduced and that market supply conditions (i.e., scarcity/surplus) and forward prices would be positively correlated. Moreover, there are modifications to the demand curve that could help mitigate some parties' concerns about the impact on forward prices. For example, the CONE-based cap could be phased in over 2-3 years, beginning (and perhaps ending) at some fraction of CONE, thus allowing buyers and sellers time to adjust.<sup>10</sup> We explore these considerations in Section 3. However, the question remains as to whether the RA market is ready for a potential price shift at this time while the CPUC proceeding is underway.

Finally, the CAISO is concerned that any subsequent steps to refine the proposed Type 1 sloped demand curve methodology will take significantly more time and resources than is likely to be worthwhile for an interim product. In particular, it could require the CAISO to justify all aspects of the demand curve with empirical or analytical evidence which in turn would require stakeholders to provide extensive input and justification regarding their desired elements. The CAISO notes that in other ISO/RTO markets, the determination of capacity demand curve parameters took months or years to finalize, and hence the prior White Paper noted that the timely implementation of an interim demand curve would have required that stakeholders accept it as an interim pricing tool without an extensive technical debate (albeit with certain reasonable modifications as discussed in Section 3). In part, that suggestion relied on the acceptance of the 2007 CEC study, when final, as the best available analysis of CONE to be used on an interim basis. Given stakeholder comments, this does not appear to be the case: there is substantial interest in disputing the CEC study, in providing alternative unit types and cost estimates for consideration, and in examining all other aspects of the demand curve. These issues are also discussed in Section 3.

Given these three major issues – the ongoing CPUC proceeding, the concern about the immediate impact of ICPM Type 1 prices on forward RA prices, and the need for a comprehensive, time-consuming examination of the demand curve technical parameters – the CAISO will not seek at this time to establish a market-proxy based price for Type 1 procurement through a demand curve. We believe that it is appropriate to revisit to this issue

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<sup>9</sup> Although the concept of an auction was suggested as a means to keep the Type 1 backstop price from being known unless there was an LSE deficiency, the auction proposal also had a market power mitigation measure based on Reliability Must-Run (“RMR”) costs, which upon investigation was found to require potentially a new type of cost-based contract. We discuss the feasibility and incentive implications of an auction in Section 3.

<sup>10</sup> E.g., NYISO phased in capacity demand curves.

after the CPUC acts in the long-term RA proceeding and in connection with the implementation of a long-term RA design. Thus, the CAISO has revised the Type 1 proposal again in favor of a simpler uniform pricing method similar to the RCST method.

### Type 1 Target Annual Capacity Price

In this proposal, the CAISO proposes a Target Annual Capacity Price for Type 1 procurement that meets the following criteria:

1. falls within the range of just and reasonable prices established by FERC in the RCST settlement,
2. guarantees that any designated resource will cover its “going forward” costs for the term of designation, and
3. does not create incentives for buyers or sellers to shift procurement to the ICPM..

The first criterion concerns what the appropriate range for a just and reasonable target annual capacity price should be. In the RCST proceeding, FERC noted that “the paper hearing in the instant proceeding has established two reference levels in determining the price of procuring backstop capacity. At the lower end, the price should at least cover the fixed costs of existing generation that is needed for reliability. At the higher end, the price should not exceed the cost of new entry that would allow investment in new generation capacity.”<sup>11</sup> As noted, the CAISO will not seek to base the ICPM price on CONE, even in tight capacity locations, until more definition is given to the long-term RA design. Instead, the target capacity price proposed here is based on two primary criteria: coverage of going forward costs and RA market incentives.

With regard to the first criteria, the CAISO has been examining cost data on going forward costs that would provide a basis for a target payment. The CAISO defines “going forward” costs here as the sum of fixed O&M, administrative and general (including insurance) and ad valorem taxes. The CAISO will also provide for an adder that can, *inter alia*, account for measurement error and any other minor costs that might appropriately be considered going forward costs.

The 2007 CEC study provides data on going forward costs of various generation types. In that study, the highest going forward cost of any gas-fired unit (either simple cycle or combined cycle) is the going forward cost of a 50 MW simple cycle combustion turbine (“CT”) built by a merchant. The going forward cost of that unit is \$37.25/kW-year. The CAISO proposes the going forward cost of this highest cost gas unit as the baseline for establishing the price of ICPM backstop capacity. In addition, the CAISO proposes to include a 10 % adder to this amount for the reasons stated above. This results in a price of \$41/kW-year.

The CAISO proposes to offer suppliers an interim Type 1 target capacity price of the higher of \$41/kW-year or a resource’s actual going forward costs that will not be subject to PER deduction. These and other cost data reviewed provide justification for assuming that this target capacity price along with retention of PER will be sufficient for almost all units to accept designation as Type 1 backstop resources.

The prior proposal did not have the “higher of” rule proposed here, but rather offered only the base price of \$41/kw-year. In their comments on the Final Proposal, some stakeholders recommended that the CAISO consider situations where a resource may have going forward

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<sup>11</sup> Independent Energy Producers Association, 118 FERC 61,096, at P 70.

costs that are greater than the \$41/kW-year target annual capacity price and develop a mechanism that would accommodate these resources. After consideration, the CAISO now proposes that a resource owner that believes that its going forward costs<sup>12</sup> are greater than \$41/kW-year would be able to file at FERC for a price higher than \$41/kW-year, but the owner would have to justify that price to FERC based on the same cost elements that are considered in setting the \$41/kW-year default price. While the CAISO believes that the \$41/kW-year price is sufficient to cover the costs for the majority of resources located in the CAISO control area, this change in the ICPM should ensure that the going forward costs of all resources are appropriately covered under an ICPM designation.

One response of commenters to this proposed price will be to question why units are not paid on a per-unit basis for going forward costs, because some units have lower going forward costs than \$41/kW-year. The CAISO believes that promulgating a per-unit backstop pricing method on this basis could severely undermine the incentives in the RA market, causing buyers potentially to enter the backstop procurement despite the potential for CPUC penalties. This is because there are units with low capacity costs but with a high RA value (e.g., in load pockets) that could be reflected in RA contracts. With regard to market incentives, FERC has noted that “the price for backstop capacity should be high enough that LSEs do not simply rely on the backstop mechanism to meet their resource adequacy requirements.”<sup>13</sup> In this regard, the CAISO has been informed that the CPUC penalty for LSE RA deficiency will be applied independently of whether the CAISO procures backstop capacity to cover that deficiency. So an LSE will prefer the backstop price if

$$\text{CAISO backstop price} + \text{CPUC penalty} \leq \text{Generator offer for RA}$$

The CPUC penalty for deficiency in System RAR is 3 times the cost of new capacity, but is only 1 times the cost of new capacity for deficiency in Local RAR. However, this calculation is also affected by whether the CPUC grants a Local RA waiver, which can be requested at a trigger price of \$40/kW-year. The CAISO understands that waivers have been requested, but not yet been granted, so for purposes of this discussion will assume that an LSE cannot ex ante determine the price at which a waiver will be granted. This creates some uncertainty about LSE incentives. Hence, in the current regulatory environment, there is no exact method to assess what Type 1 price would be sufficient to prevent LSEs to prefer the backstop price. We assume here, based on experience with RA showings while the RCST price was available, that a \$41/kW-year Type 1 price combined with uncertainty about the CPUC waiver and penalty price is sufficient to not induce LSEs to resort to the ICPM (since \$40/kW-year is roughly the expected average net RCST price).

One of the concerns raised in prior discussions by suppliers is that the existing RCST price does not capture the scarcity value of capacity. The CAISO sought to capture scarcity pricing based on CONE in locations with RA deficiency in its prior sloped demand curve proposal. However, for this interim product, given the pendency of long-term RA pricing issues and the interrelationship between a backstop capacity product and long-term RA market design, we no longer propose a scarcity capacity value for the ICPM, but will instead not deduct PER. Given the uniform price of \$41/kW-year, then, the new price formula has potential to provide higher payments than the RCST price during some hours (when the PER

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<sup>12</sup> Going forward costs are defined here as the sum of fixed operations and maintenance (O&M), ad valorem costs, and insurance costs plus a 10% adder to account for other costs.

<sup>13</sup> Independent Energy Producers Association, 118 FERC 61,096, at P 71.

is currently greater than the RCST payment).<sup>14</sup> In general, the CAISO estimates that the proposed price will potentially increase revenues to units designated relative to the RCST price in the summer peak months and decrease them in the shoulder and off-peak months. Higher payments that would have been deducted under a PER adjustment will also come through other changes in the pricing of energy and ancillary services under MRTU. As noted in some comments, the introduction under MRTU of locational marginal pricing (LMP) with higher energy bid caps, as well as scarcity pricing during regulation and operating reserve shortages (to be implemented in a subsequent MRTU stage) should improve the energy and ancillary service market scarcity rents.

The final per unit price that results from these pricing procedures will be the Type 1 Target Capacity Price, and will be subject to adjustments for availability and the level monthly shaping factor, as discussed below.

### Type 2 Target Annual Capacity Price

The proposed Type 2 pricing attracted less attention from stakeholders. However, some parties argued that the pricing based on fixed O&M was too low to cover going forward costs and others argued that Type 1 and Type 2 pricing should be on the same basis.

In this proposal, the CAISO raises the Type 2 price to the same level as the proposed Type 1 price, such that both will have a target price of the higher of \$41/kW-year or a resource's actual going forward costs not subject to PER deduction.

As discussed above under the Type 1 target annual capacity price subsection, the CAISO now proposes that a resource owner that believes that its going forward costs are greater than \$41/kW-year would be able to file at FERC for a price higher than \$41/kW-year, but the owner would have to justify that price to FERC based on the same cost elements that are considered in setting the \$41/kW-year default price. While the CAISO believes that the \$41/kW-year price is sufficient to cover the costs for the majority of resources located in the CAISO control area, this change in the ICPM should ensure that the going forward costs of all resources are appropriately paid under an ICPM designation.

The final price that results from these pricing procedures will be the Type 2 Target Capacity Price, and will be subject to adjustments for availability and the level monthly shaping factor, as discussed below.

### Escalating Target Annual Capacity Price

The CAISO proposes that for the period of the ICPM, an escalation factor not be included. This is due primarily to the short duration of this proposal, i.e. the sunset provision for December 31, 2010.

### Formula for Capacity Payment

In their comments on the Final Proposal, stakeholders requested that the CAISO clarify the formula for the Capacity Payment, and any changes that are being proposed from the

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<sup>14</sup> PER values exceeded monthly maximum RCST payments for the months of June and July 2006 in the PG&E service territory. See the report on CAISO website at <http://www.caiso.com/18a0/18a088e322a40.pdf>.

formula that is in the RCST. In their subsequent comments on the Draft Board Proposal, stakeholders requested that the CAISO clarify that it is the amount of capacity that would be designated under an ICPM designation that would appear in the formula for the capacity payment and not the total capacity value of the resource, i.e., the term “Net Qualifying Capacity” should not be used in the formula (as was the case in the RCST). This concept is particularly important given that under the ICPM the CAISO can designate a “partial unit.” This change has been made in the formula below (the term “Designated Capacity” is used rather than “Net Qualifying Capacity”). The CAISO has revised this section for the Board Proposal to make the section more clear.

As discussed above in the Target Annual Capacity Price section, the CAISO proposes to modify the general approach reflected in the RCST Settlement and in the prior proposals for the proposed Type 1 and Type 2 capacity payments (i.e., the Target Annual Capacity Price).

The CAISO proposes the following formula for the Capacity Payment:

$(\text{Designated Capacity}) \times (\text{Availability Factor}) \times (\text{Monthly ICPM Charge})$

As a point of reference, the formula in the RCST is:

$(\text{Net Qualifying Capacity}) \times (\text{Availability Factor}) \times (\text{difference between Monthly RCST Charge and 95\% of PER})$

For the ICPM, the CAISO proposes to use the same Availability Factor in the formula as is currently in the RCST. As noted above in the Target Annual Capacity Price section, the Target Annual Capacity Price would be calculated differently than under RCST; hence, the “Monthly ICPM Charge” element shown also would be calculated differently to reflect a monthly a value as was done in the RCST (it was called a “Monthly RCST Charge” in the RCST, and it is proposed to now be called a “Monthly ICPM Charge” under ICPM). The Capacity Payment formula under ICPM also is different than under RCST in that the ICPM pricing does not deduct PER, so this element is now not part of the Capacity Payment formula (under the RCST, the Capacity Payment formula had an element that was “difference between Monthly RCST Charge and 95% of PER”).

As requested by stakeholders, the CAISO has inserted below the specific language from the current RCST regarding Availability Factor.

Excerpts from ISO TARIFF APPENDIX F  
Schedule 6  
RCST SCHEDULES

Availability

The target Availability for a resource designated under RCST is 95%. Incentives and penalties for availability above and below the target are as set forth in the table below, entitled "Availability Factor Table." The ISO will calculate availability on a monthly basis using actual availability data. The "Availability Factor" for each month shall be calculated using the following curve:

AVAILABILITY FACTOR TABLE

Availability (excluding only Scheduled Maintenance)	Capacity Payment Factor	Availability Factor
100%	3.3	1.139
99%	3.3	1.106
98%	3.3	1.073
97%	2.5	1.040
96%	1.5	1.015
95%	-	1.000
94%	-1.5%	.985
93%	-1.5%	.970
92%	-1.5%	.955
91%	-1.5%	.940
90%	-1.5%	.925
89-80%	-1.7%*	.908-.755
79-41 %	-1.9%*	.736-.014
-40%	-	0.0

\*The "Capacity Payment Factor" decreases by 1.7% and 1.9% respectively for every 1 % decrease in availability.

The capacity payment will be adjusted upward from the 95% Availability starting point by the positive percentages listed as the Capacity Payment Factor above, by the amounts listed for each availability factor above 95%, so that, for example, if a 97% Availability is achieved for the month (as described below), then the capacity payment for that month would be the monthly value for 95% plus an additional 4% (1.5% for the first percent Availability above 95%, and 2.5% for the second percent Availability above 95%). Reductions in capacity payment will be made correspondingly according to the Capacity Payment Factor above for monthly availability levels falling short of the 95% availability starting point.

### **Formula for Monthly Capacity Charge**

As discussed above in the Target Annual Capacity Price section, the CAISO proposes to modify the general approach reflected in the RCST Settlement and in the prior proposals for the proposed Type 1 and Type 2 capacity payments (i.e., the Target Annual Capacity Price).

The CAISO proposes the following formula for the Monthly Capacity Charge:  
(Monthly shaping factor) x (Target Capacity Price)

As requested by stakeholders, the CAISO has considered changing the shaping factor such that resources can better recover their costs at any time during the year if designated under the ICPM. Some stakeholders have expressed concern that using shaping factors such as those in the current RCST and included in previous ICPM proposals could provide a resource with only a small portion of the target annual capacity price if that resource was designated in non-summer months compared to summer months (the RCST shaping factors allocate larger percentages of the capacity payment to the summer months than the non-summer months, ranging from a high value of 17.0% in a summer month to as low as 4.6% in a non-summer month). The CAISO now proposes changing the “shaping factor” so that each month a resource would be paid 1/12 of the target annual capacity price (i.e., the shaping factor would be level throughout all months of the year). The CAISO believes that this is an appropriate modification based on two factors. First, resources will have incentives that are already aligned in the summer months as the ICPM has no PER deduction for peak energy rents and there are typically higher energy rents during the summer months. Secondly, resource owners have voiced their desire and the CAISO agrees that a level shaping factor better aligns with a fixed-cost based rate for the capacity payment because these costs do not typically vary during the year.

### **Allocation of Costs**

The RCST provides for an allocation of costs for system, local and Significant Event procurements; therefore, since the ICPM proposal has similar procurement categories, the CAISO proposes to continue the general approach reflected in the RCST language in Section 43.8 of the current CAISO Tariff, with some additional changes as described below. The proposed methodology to allocate the total costs of ICPM capacity payments is summarized below for each of the ICPM procurement situations. Numeric examples also are provided.

### **Backstop to RA Process**

The types of procurement where the CAISO procures to backstop the RA process (Type 1 procurement) are discussed below.

**Annual System ICPM Designations (i.e., deficiency in year-ahead System showing) –**  
Allocated pro rata to each SC-RA Entity based on its portion of the aggregate Year-Ahead System Deficiency.<sup>15</sup>

Example 1: If an LSE was determined to have not procured sufficient capacity to meet its Year-Ahead System showing based on targets established by the CPUC or LRA (e.g., LSE fails to procure 10 MW of its five summer month requirement even after being provided an

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<sup>15</sup> The Year-Ahead System Deficiency is defined as the monthly deficiency in meeting Year-Ahead System RA Requirements as determined by the CPUC and applicable LRAs.

opportunity to cure the deficiency), then the CAISO would procure 10 MW for each the five summer months under the ICPM and charge that LSE the cost of that procurement. Or, as another example, if the LSE was only short 10 MW in just two of the five summer months, the CAISO would procure 10 MW for only the two summer months under the ICPM and charge that LSE the cost of that procurement. This assumes the CAISO can purchase exactly 10 MW from a resource. Generally, under ICPM there should not be a “lumpiness” issue because the CAISO will not be limited to buying whole units. Nevertheless, lumpiness could arise if the minimum operating level of the only available resource is greater than the deficiency. In that circumstance, the deficient LSE is still the only LSE charged for the ICPM procurement. For system deficiencies, this lumpiness scenario should happen, if at all, very infrequently because the CAISO is not constrained by the location of resources from which to procure. Nevertheless, in the unusual circumstance where the CAISO is limited to a unit with a minimum operating level greater than the deficiency, all of the costs of the ICPM procurement would be assigned to the deficient LSE (i.e., the deficient LSE caused the need for the ICPM procurement and it would be charged the full cost of that procurement – in following with cost causation principles it would not be appropriate to spread any of this procurement cost to other LSEs that were otherwise sufficiently procured).

Local ICPM Designations (i.e., deficiency in year-ahead Local showing) – Either allocated to the LSE(s) that caused the deficiency, or allocated pro rata to each SC-RA Entity based on the ratio of its Local RA Requirement Deficiency to the aggregate Local RA Requirement Deficiency in each TAC Area (see examples below).

Example 1: If the LSEs are short and the CAISO can resolve the situation by making ICPM purchases equal to the total LSE Local RA Requirement Deficiency, then the CAISO will split the cost to the deficient LSEs based on the ratio of their Local RA Requirement Deficiency to the aggregate Local RA Requirement Deficiency in Local Reliability Area. For example, if LSE 1 is deficient by 50 MW, LSE 2 is deficient by 100 MW, and the CAISO can solve all the deficiency by securing a 150 MW unit, the costs would be split 33.33% to LSE 1 and 66.67% to LSE 2.

Example 2: If an LSE is short in its local capacity showing and the CAISO can only resolve the situation by making an ICPM purchase of capacity that is greater than the MW deficiency (due to lumpiness of procurement), then the CAISO will charge the deficient LSE for the total capacity procured. For example, if an LSE is deficient by 100 MW and the minimum amount of capacity that can be acquired by the CAISO is 120 MW (the smallest available increment of additional capacity is a resource with a “PMIN” of 120 MW), then the full cost of the 120 MW of procurement would be assigned to the deficient LSE (i.e., this one LSE caused the need for the ICPM procurement and it would be charged the full cost of that procurement - – in following with cost causation principles it would not be appropriate to spread any of this procurement cost to other LSEs that were otherwise sufficiently procured).

Example 3: If all LSEs are in compliance with their respective RA local capacity requirements and there still is a deficiency (there is an “effectiveness” issue where the LSE portfolios fail to resolve all criteria violations), then the costs of the ICPM procurement will be allocated to all LSEs in the TAC area based on the ratio of each LSE’s contribution to peak Demand in the TAC Area as determined by CEC Demand Forecasts.

Monthly System ICPM Designations (i.e., deficiency in month-ahead system showing) – Allocated pro rata to each SC-RA Entity based on its portion of the aggregate Month-Ahead System Deficiency.<sup>16</sup>

Example 1: If an LSE was determined to have not procured sufficient capacity to meet its month-ahead system target, as determined by the CPUC or LRA (for example it was required to procure 20 MW more than it did for the upcoming compliance month, and it did not do so after a cure opportunity), then the CAISO would procure 20 MW for that one month under the ICPM and charge that the deficient LSE for the cost of that procurement (assuming that the CAISO could purchase exactly 20 MW from a resource). However, if there was a need to cure a 20 MW deficiency, and there was lumpiness of procurement (such as the minimum operating level of the only available resource is 25 MW, not 20 MW), then the CAISO would purchase the 25 MW and that LSE, and only that LSE, would be charged for the one-month ICPM procurement of 25 MW (i.e., the deficient LSE caused the need for the ICPM procurement and it would be charged the full cost of that procurement - – in following with cost causation principles it would not be appropriate to spread any of this procurement cost to other LSEs that were otherwise sufficiently procured).

#### Backstop for Significant Event

When the CAISO engages in ICPM due to the occurrence of a Significant Event (Type 2 procurement), the CAISO would use the actual load for each month as recorded in the CAISO settlement system for cost allocation purposes.

Significant Event Designations – Allocated to all SC-RA Entities in the TAC Area(s) in which the Significant Event caused or threatened to cause a failure to meet ARC based on SCs' RA Entity Load Share Percentage(s) in such TAC Area(s).<sup>17</sup> Costs for Significant Event procurement are spread because no one could have known or predicted that a Significant Event would occur.

Note: The CAISO could procure capacity to address operating situations that may be of a system or local nature, or for the geographic area north of Path 26 or south of Path 26. The cost allocation discussed above would allocate costs to entities in one TAC area if only one TAC Area was affected, or to entities in more than one TAC area if more than one TAC Area was affected.

#### Selection among Multiple Resources

As in the prior proposals, the CAISO proposes to continue the general approach to selection among multiple resources reflected in the RCST Settlement. The criteria for selection of backstop resources is currently provided in the RCST language in Section 43.2.2, Selection of Eligible Capacity Designated for Local Reliability, and Section 43.3.3, Selection of Eligible Capacity Designated for System Reliability.

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<sup>16</sup> The Month-Ahead System Deficiency is defined as the monthly deficiency in meeting the Month-Ahead System RAR as determined by the CPUC and applicable LRAs for each RA Entity subject to their jurisdiction.

<sup>17</sup> The RA Entity Load Share Percentage shall be calculated for each RA Entity by dividing the RA Entity's actual coincident peak Load in each TAC Area by the total coincident peak Load of all RA Entities in the TAC Area.

As before, the CAISO also proposes a change to the existing RCST program to allow the CAISO to designate a partial unit to provide service under the capacity backstop mechanism.

The CAISO remains confident that the physical characteristics of the specific resources (e.g., effectiveness on local contingencies) and partial unit procurement will allow for differentiation between resources that are eligible for designation such that ties will rarely take place. In the prior proposals, the CAISO asked for comments about tie-breaking in the event that following the application of the physical criteria for selection there are still multiple units eligible to be designated as Type 1 resources. The primary option that was considered was a simple auction capped at the \$41/kw-year price. However, with the subsequent modification to allow submission of going forward costs higher than that price (which would have to be filed and approved by FERC), and in the face of stakeholder concern about the implementation of such an auction, the CAISO has decided not to adopt an auction. Rather, in the event of ties, CAISO will first choose units that accept at the \$41/kw-year level, and only subsequently choose offers which are indicated at a higher price. If the tie is not resolved, CAISO will use a random selection rule to determine designation. All resources will be paid either \$41/kw-year or the higher price approved by FERC. The resulting price per resource will not be subject to PER deduction but will be subject to the other adjustments listed above (availability factor and monthly shaping factor). The same rule will now apply to Type 2 procurement.

### **ICPM Designation is Voluntary**

A resource owner can decline an ICPM designation when offered by the CAISO (i.e., an ICPM designation is voluntary). The CAISO's objective is to keep the MRTU markets voluntary and motivated by market incentives as much as possible.

However, many stakeholders and the MSC believe that an ICPM designation should be mandatory. They believe that the CAISO has developed this mechanism to ensure that the CAISO can procure capacity when needed, and that the CAISO should be able to compel resources to accept the offer so that the CAISO's needs can be assured to be met and with minimal "shopping." Many stakeholders also are concerned that if the ICPM is voluntary some resources may decline the offer of ICPM designation, and hence the requirement to offer into the Integrated Forward Market ("IFM"), which could make it difficult to procure the necessary capacity and adversely affect reliability. Another concern is that resources reject an ICPM designation for purposes of market power.

The CAISO continues to believe that it is appropriate to make the ICPM designation voluntary. First, FERC has ruled there is no type of Must-Offer Obligation that non-RA/RMR resources would be subject to under MRTU, and a mandatory ICPM designation requirement would be like re-imposing a Must-Offer Obligation.

Second, CAISO believes that the ICPM pricing provides sufficient incentives for resources to accept a designation – it at least covers their going-forward costs (if not more) and also allows resources to retain all revenues from the MRTU markets.

Third, the CAISO has not seen any compelling evidence to suggest that suppliers would have a clear reason not to accept ICPM designation due to expectations of greater compensation in the MRTU markets as non-ICPM resources. Moreover, even if that was the case, resources that had opted not to become ICPM resources would not be withholding

their capacity from the MRTU markets, but rather continuing to offer it. Hence, the CAISO would have the resources available that it needs and reliability would not be affected.

Fourth, the CAISO Department of Market Monitoring will be monitoring whether resources have both rejected ICPM designations and are not participating in the market, to see if there is any physical withholding. If there is a finding of potential withholding, there may be a need to establish a mandatory designation.

Finally, the CAISO has additional tools under the MRTU tariff to operate the system reliably if resources, for whatever reason, decline an ICPM designation (i.e., Exceptional Dispatch<sup>18</sup> and emergency declarations).

### **Allowing ICPM Capacity to be included in RA Showings**

The CAISO proposes to provide information to the CPUC and local regulatory authorities on all ICPM procurement so that capacity procured under the ICPM can be considered by the CPUC and local regulatory authorities and potentially allowed to count towards satisfying an LSE's RA requirement.<sup>19</sup> Stakeholders have requested, and the CAISO supports, allowing all Type 1 ICPM capacity procurement (procurement to backstop the RA process) to be included in RA showings so that LSEs receive credit for ICPM capacity for which they have paid. However, some stakeholders have requested that all ICPM procurement be allowed to be included in RA showings. The CAISO does not support allowing Type 2 procurement (procurement to backstop for a Significant Event) to be included in RA showings and will reflect this position to the CPUC and local regulatory authorities. The CAISO is differentiating between Type 1 and Type 2 procurement on this issue because the reason for Type 2 ICPM procurement is that the RA resources already procured by LSEs are determined by the CAISO to be insufficient to meet Applicable Reliability Criteria. Thus, allowing LSEs to include Type 2 capacity in subsequent RA showings would result in a decrease of the available RA capacity, which would only exacerbate the conditions that lead to the Significant Event and potentially cause additional ICPM procurement.

The CAISO makes the following addition points on this subject. First, in their comments on the Final Proposal, stakeholders have requested that the CAISO support allowing ICPM capacity that is procured to address local "effectiveness factors" being counted in a LSE's system RA showing. After consideration, the CAISO now supports allowing LSEs to include Type 1 procurement that was made to address a local "effectiveness factors" deficiency in RA system showings (i.e., such procurement cannot be used to offset the amount of local capacity that would otherwise be required to fulfill a local RAR in a subsequent RA month).

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<sup>18</sup> Under MRTU, Exceptional Dispatches are similar to the current out-of-sequence and out-of-market actions that may be taken by CAISO operators to address a system or local reliability issue that cannot be resolved through the CAISO market software or dispatches to Reliability Must Run resources. There are two major potential reasons why Exceptional Dispatches may be needed for local reliability issues: forced transmission or generation outages, and local reliability constraints not modeled in market software. In such cases, the CAISO has authority to manually dispatch specific generation units to address reliability issues. Units receiving Exceptional Dispatches for energy will be paid the higher of their bid price or the Locational Marginal Price. The CAISO expects that the frequency and duration of Exceptional Dispatches will be limited.

<sup>19</sup> The CPUC and LRAs determine the rules under which capacity is allowed to "count" towards an entity's RA requirement. Capacity that is determined to count towards a RA requirement is then included in a RA showing by the LSE. The CAISO does not determine the counting/crediting rules for capacity used by LSEs to fulfill a RA requirement.

Secondly, the CAISO does not dictate whether specific resources are eligible to count for meeting CPUC or LRA imposed procurement obligations. Accordingly, only those regulatory entities can determine whether LSEs under their jurisdiction will be entitled to receive credit toward meeting RAR for CAISO procured resources. In this regard, FERC has directed the CAISO to ensure that it provides the CPUC and other LRAs with sufficient information to allow those entities to calculate the appropriate credit for their jurisdictional LSEs should they chose to do so. The CAISO will provide information on all ICPM procurement, both Type 1 and type 2 procurement.

Third, the timing of RA showings erects a limitation on the viability of extending this credit under certain circumstances. For example, where CAISO procurement is triggered by a deficiency first revealed in a month-ahead showing, the CAISO will procure only for the affected month. Under this circumstance, the term of the CAISO's procurement will expire prior to the period for which the next LSE showing must be made. There is simply no opportunity for the credit to be captured by the LSE. Thus, as a practical matter, it will only be possible for an LSE, if allowed by the CPUC or its LRA, to reflect ICPM procurement in a showing where the ICPM procurement term is greater than one month.

**Section 3**  
**Changes to Proposal #2 regarding Pricing**

This section examines some of the issues raised in comments on Proposal #2. CAISO appreciates the great effort that many parties undertook to address the new concepts introduced in the prior proposals in a short time-frame. CAISO anticipates that many of these issues may arise in the future evolution of backstop procurement in the context of long-term RA market design and hence discussion here will help set the stage for future consideration.

**Would an auction or standing sealed-bid offer diminish the price impact of the backstop mechanism on the forward RA market?**

In both prior rounds of comments on ICPM, proposals were made for an auction or standing sealed-bid offer process to procure interim capacity. An attractive property of both of these proposals, in the view of some commenters, was that in the event that no backstop procurement was needed, the CAISO would not promulgate a transparent price that would then affect bilateral contract negotiations (whether raising them or lowering them). We believe that auctions can potentially play a role in backstop procurement as a component of a long-term RA market design. For example, PJM conducts an auction for backstop procurement in year 3 of its 4-year Reliability Pricing Model market design, but with detailed rules that place any purchases in this backstop auction in the context of the long-term RA market.

The primary difficulty with proposals for full auctions (as opposed to the tie-breaking auction discussed above) for Type 1 procurement in the current context is that the bilateral RA market does not readily support a capacity auction operating just before the delivery year (i.e., month ahead or even weeks ahead). At the very least, additional rules would be needed to verify that if the auction took place, or if the sealed bids were opened, the prices would be reflective of competitive market conditions. As a first step in this direction, the CAISO would have to declare a uniform offer cap ahead of time, such as an estimate of CONE, for these auctions or solicitations. If it did, then this cap would already affect forward market contracting, since suppliers would have some sense of the maximum backstop price in locations where capacity is scarce (relative to the RA requirement). If the CAISO did not, then it would face the prospect that prices would be in excess of reasonable competitive benchmarks and that ex post market power mitigation would be needed.

Although some commenters had market power mitigation rules to suggest, the CAISO faced the prospect of an involved process to work internally and with stakeholders to appropriately define such rules in a voluntary market setting. There are a variety of possible ex ante rules to consider, including structural screens (such as identification of pivotal suppliers), offer caps, and the determination of the appropriate mitigated price, if needed. One suggestion about a mitigated price was to resort to RMR contracts either to benchmark individual unit offers or as a substitute for offers considered uncompetitive. The CAISO reviewed the terms and conditions of RMR contracts and has found that there is no simple mapping of these terms and conditions into the ICPM framework. While an RMR contract may fit some circumstances, in at least some cases, a new type of contract would need to be developed – a prospect which appeared unlikely in the time-frame of this procedure. An alternative way to resolve these market power issues is via the method that the CAISO proposed in its prior Type 1 proposal: by “clearing” a pre-defined capacity demand curve using actual capacity rather than clearing it with voluntary bids. This was a method originally proposed to mitigate

market power in annual locational capacity auctions. This approach appeared consistent with the time frame of the ICPM implementation. It is discussed further below.

The CAISO has proposed a simple auction to break ties over Type 1 procurement in the current proposal. While it is not clear whether such an auction will ever take place, it will create the potential for a lower backstop price in some locations based on competition.

Finally, the CAISO could not hold an auction for Type 2 procurement due to the urgent nature of Significant Events, therefore two different pricing methods would still be required. We feel that the Type 2 circumstance is even less amenable to ex post market power mitigation, given the time frames. For these reasons, in both the prior proposal and this one, we have opted not to implement a full auction at the present time, but will reconsider this approach in developing backstop procurement in the context of a long-term RA market design.

**Did the proposed Type 1 demand curve and pricing methodology exacerbate or diminish market power in the forward RA market?**

Some commenters argued that the proposed demand curve and pricing methodology would exacerbate market power by introducing a CONE-based price in local areas with tight capacity. Other commenters suggested that the proposed demand curve and price floor would lower prevailing RA prices by mitigating market power in the local areas with surplus capacity. In principle, the mechanism proposed in the prior White Paper was intended to diminish market power but also reflect market scarcity. Within the proposed procurement mechanism, there was no voluntary auction, so no opportunity to withhold either physically or economically (through raising bid prices). However, the scarcity value is determined administratively, through the selection of the parameters in the demand curve. We believe that it was this transparent scarcity value and the lack of time to adjust to it in the forward RA market and not market power that caused concern among stakeholders. We agree with commenters that with this transparent backstop price available, forward RA prices in areas with scarce capacity (relative to the RA requirement) could increase to reflect the scarcity value, while prices in surplus areas could diminish to reflect the market power mitigation effect of the backstop procurement methodology. Some possible remedies to such price shifts are suggested next.

**Could the proposed Type 1 demand curve have been modified to mitigate the price impact?**

Had the determination been made to proceed with the sloped demand curve approach, the CAISO was prepared to address the local area price impact issues. There were three parameters in the proposed demand curve that could have been modified to mitigate the possible price impacts:

1. the estimate of CONE,
2. the slope of the demand curve/zero price intercept, and
3. the price floor.

With respect to the estimate of CONE, several commenters argued for selection of a different peaking technology to use as the new entrant or to consider other cost analysis in addition to

the CEC study.<sup>20</sup> CAISO agrees that the selection of the technology could have been discussed further and should be if CONE is a parameter in capacity pricing on a more permanent basis. Certainly other ISOs have undertaken more extensive analysis of unit type, including consideration of locational constraints that affect the size and type of unit. However, in this instance, the CAISO was constrained by the element of time and in our review of data that was available, particularly the CEC study but also other data, we felt that the unit chosen and the price as proposed was not outside the range of reasonable CONE estimates. Had we continued on this course for ICPM, the preferred route would have been to work further with the CEC and stakeholders to determine a CONE estimate, if different from our starting point, but remaining within the CEC analysis.

A further modification to the demand curve could have been to phase in the curve over several years. For example, in year 1, the cap could be set at 60% of CONE and in year 2 at 80% of CONE. This would have established the principle that the backstop procurement is based on capacity pricing principles, but given parties time to adapt to the pricing regime. This approach was followed by NYISO when it introduced capacity demand curves.

Finally, several parties noted that the price floor was too low. This is the only feature of the prior pricing proposal that is essentially addressed in this proposal, by raising the price to reflect a more robust estimate of going forward costs.

### **Should there be a different price for Type 1 and Type 2 procurement?**

The CAISO's prior pricing proposal distinguished Type 1 and Type 2 procurement on the basis that procurement during Significant Events was not intended to fulfill annual RA requirements but was rather for the purpose of supporting short-term operational needs. A further economic justification was that the forward RA market had cleared and any generation that was operable in the time-frame of a Significant Event was not operable due to its RA contract but rather due to its expectation of energy and ancillary service revenues. As such, a capacity payment based on capacity pricing principles, including scarcity value and PER, such as was proposed for Type 1 procurement using a demand curve, was not justified. Instead, a payment based on going forward costs but with no deduction for PER was seen as sufficient to elicit designation for the period.

The CAISO has changed its pricing basis in this final proposal for both types of procurement, but again we do not offer exactly the same pricing method for Type 1 and Type 2 procurement. However, we have aligned the Type 2 and Type 1 base price at \$41/kW-year (in some circumstances, the Type 1 price could be lower than this price if there are multiple resources available).

We note that some commenters made the exact opposite argument to the one above: they prefer that Type 1 procurement does not reflect scarcity value of capacity but that Type 2 procurement could include some kind of scarcity premium to reflect the emergency nature of Significant Events. The scarcity premium could be limited to the first month of the Significant Event. A scarcity premium for Significant Events is a possible market pricing rule, but would be an arbitrary number and the question is then raised as to whether there would also be an ex post PER deduction. Our preference, as stated in this paper, is that any scarcity premium

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<sup>20</sup> Given the time constraints, we will reserve our reply here to the selection of peaking technology and not address other comments on CONE calculation at this time.

during Significant Events come through the energy and ancillary services markets rather than ICPM payments.

## Attachment 1

### List of Acronyms

ARC	Applicable Reliability Criteria
AReM	Alliance for Retail Energy Markets
CAISO	California Independent System Operator
CEC	California Energy Commission
CLECA	California Large Energy Consumers Association
CMTA	California Manufacturers & Technology Association
Constellation	Constellation Energy Commodities Group, Constellation NewEnergy, Inc, and Constellation Generation Group, LLC
CPUC	California Public Utilities Commission
DR	Demand Response
Dynegy	Dynegy Power Marketing, Inc.
FERC	Federal Energy Regulatory Commission
FMU	Frequently Mitigated Unit
ICPM	Interim Capacity Procurement Mechanism
IEP	Independent Energy Producers Association
ISO	Independent System Operator
LCR	Locational Capacity Requirement
LRA	Local Regulatory Authority
LSE	Load Serving Entity
MORC	Minimum Operating Reliability Criteria
MRTU	Market Redesign and Technology Upgrade
MSC	Market Surveillance Committee
MW	Megawatt
NERC	North American Electric Reliability Council
NQC	Net Qualifying Capacity
NRG	NRG Energy
O&M	Operation and maintenance
PER	Peak Energy Rent
PGA	Participating Generator Agreement
PG&E	Pacific Gas and Electric Company
PTO	Participating Transmission Owner
RA	Resource Adequacy
RCST	Reliability Capacity Services Tariff
Reliant	Reliant Energy, Inc.
RMR	Reliability Must-Run Agreement
RUC	Residual Unit Commitment
SCE	Southern California Edison Company
SCUC	Security Constrained Unit Commitment
TAC	Transmission Access Charge
WECC	Western Electricity Coordinating Council

## Attachment 2

### Key Milestones of Stakeholder Process

#### Development of Issues Paper

Apr 23, 2007 CAISO issues market notice announcing initiative and date of first meeting  
Apr-May Informal discussion with stakeholders  
May 9 CAISO posts Issues Paper

#### Development of Proposal #1

May 18 CAISO holds stakeholder meeting on Issues Paper (10:00 a.m. - 3:00 p.m.)  
May 25 Stakeholders submit their written comments on Issues Paper  
May 29 CAISO posts the written comments submitted on Issues Paper  
Jun 6 Joint MSC/Stakeholder meeting (9:00 a.m. – 5:00 p.m.)  
Jun 29 CAISO posts White Paper (Proposal #1)

#### Development of Proposal #2

Jul 25 CAISO holds stakeholder meeting on Proposal #1 (10:00 a.m. – 4:00 p.m.)  
Aug 9 Stakeholders submit their written comments on Proposal #1  
Aug 10 CAISO posts the written comments submitted on Proposal #1  
Oct 5 CAISO posts White Paper #2 (Proposal #2)

#### Development of Final Proposal

Oct 15 CAISO holds stakeholder meeting on Proposal #2 (10:00 a.m. – 4:00 p.m.)  
Oct 18 CAISO holds stakeholder conf. call on Proposal #2 (9:00 a.m. – 12:00 p.m.)  
Oct 24 Stakeholders submit their written comments on Proposal #2  
Oct 25 CAISO posts the written comments submitted on Proposal #2  
Nov 9 CAISO posts the Final Proposal

#### Development of MSC Opinion

Nov 19 MSC posts the draft MSC Opinion  
Nov 21 MSC holds a conference call to adopt the MSC Opinion  
Nov 27 MSC submits to CAISO the adopted MSC Opinion

#### Development of Draft Board Proposal

Nov 15 CAISO holds stakeholder conf. call on Final Proposal (10:00 a.m. – 2:00 p.m.)  
Nov 21 Stakeholders submit their written comments on Final Proposal  
Nov 27 CAISO posts the written comments submitted on Final Proposal  
Dec 14 CAISO posts Draft Board Proposal

#### Development of Proposal to Board

Dec 20 CAISO holds conf. call on Draft Board Proposal (8:30 a.m. – 12:00 p.m.)  
Jan 7, 2008 Stakeholders submit their written comments on Draft Board Proposal  
Jan 8 CAISO posts the written comments submitted on Draft Board Proposal  
Jan 17 CAISO completes Board Proposal, and attaches MSC Opinion  
Jan 28-29 CAISO requests approval from Board to make tariff filing