

**PUBLIC UTILITIES COMMISSION**

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**CAISO REVISED STRAW PROPOSAL – STANDARD RESOURCE ADEQUACY  
CAPACITY PRODUCT****CPUC STAFF COMMENTS  
December 18, 2008**

The CPUC staff appreciates the CAISO staff's continued efforts to develop a Standard Capacity Product (SCP) in response to broad stakeholder support. CPUC staff commends the CAISO staff's continued substantial efforts in developing the components of a SCP in such a tight time frame.

The CAISO staff's December 4, 2008 Revised Straw Proposal and subsequent clarifications made during the December 11, 2008 Market Surveillance Committee (MSC) meeting incorporate many elements highlighted by the CPUC staff and other stakeholders. CPUC staff would like to comment further on the proposal and reemphasize certain aspects of previous CPUC staff comments that have not yet been fully addressed in the CAISO staff's most recent revisions to the SCP Straw Proposal.

CPUC staff emphasizes that its primary focus is ensuring that the proposed scope and detailed features of the SCP complement, rather than conflict with, the state's Resource Adequacy (RA) efforts. CPUC staff is concerned that to ensure that a SCP can be feasibly implemented in time for the 2010 RA showing, it may be necessary initially to limit the definition of a SCP to thermal generation and not apply this metric to intermittent generation. Alternatively, it may be necessary to defer certain elements of a SCP which would not meet the timetable of the 2010 RA showing.

In this filing, CPUC staff offers detailed comments on performance metrics, Demand Response (DR), process issues related to Ancillary Services Must Offer Obligations (AS MOO) and the CPUC's RA program, and change management concerns.

CPUC staff chooses not to comment at this time on the issues of imports, Qualifying Facilities, and Multimetered Sub-Systems but reserves the right to comment on these topics in the future. CPUC staff's lack of comments should not be construed as concurrence or opposition to any particular position on these issues.

Finally, CPUC staff looks forward to greater detail and discussion of the CAISO's recent clarifications from the MSC meeting in the CAISO's Final Proposal on December 24<sup>th</sup> and appreciates the opportunity to comment further after that date.

**Performance Metrics**

CPUC staff appreciates the clarifications related to performance metrics presented by the CAISO staff at the December 11, 2008 MSC meeting. CPUC staff provides detailed comments below that recommend the development of an availability metric specifically applied to fossil-

fueled generation now, and development of a separate metric for intermittent generation during an enhancement phase of the SCP process. CPUC staff is concerned that application of a uniform performance metric to thermal and intermittent generation would cause unexpected results to occur. Thus, CPUC staff encourages the CAISO to gather data from all types of generators, provide data regarding the average availability of certain classes of resources, and develop a segmented approach in defining a class-specific availability metric. Additionally, CPUC staff suggests that all stakeholders would benefit from detailed discussions regarding the frequency and magnitude of any penalties applied. CPUC staff suggests that this discussion could occur as the CAISO develops the Business Practice Manual (BPM) for this part of the tariff.

CPUC staff supports the CAISO staff's initiative, presented during the discussion at the MSC meeting, to move towards collecting GADS data as part of the future SCP enhancement; this data would allow for more consistency across capacity products nationwide. CPUC staff supports the implementation of the CAISO's proposed target availability metric, which is similar to an existing NERC GADS Equivalent Availability Factor. However, CPUC staff requests that CAISO staff clarify several technical aspects such as definitions and algorithms in their Final Proposal on December 24<sup>th</sup>. Finally, CPUC staff requests that the CAISO clarify the final SCP proposal regarding a possible enhancement processes for target availability values, methodologies, and specific peer group definitions, potentially in the BPM process.

### **Determination of an Availability Metric**

CAISO staff's revised SCP straw proposal reflects stakeholders' preference for a general comparative class average metric rather than a metric that compares a unit's individual performance to its own history. CPUC staff agrees that a group benchmarking approach, which establishes an acceptable target availability level and penalizes significant under-performers, is superior to the unit-specific approach. CPUC staff supports the application of the CAISO's availability and performance metric on conventional fossil fuel generation.

CPUC staff recommends that the CAISO separate intermittent and other Use-Limited Resources from the proposed performance standard, and develop separate metrics later after more information is available regarding the unique operating characteristics of these special resources. Given the uncertainty regarding how a standard performance metric impacts different types of facilities at this time, we suggest that the CAISO begin to gather and trend availability data from all types of generators, assess the expected financial impacts of the proposed penalty structure to the targeted generation fleet and share these outcomes with the CPUC and other stakeholders. The availability data provided would frame discussion regarding metrics for different types of resources later.

### **Counting Availability**

Overall, clarifications and details provided by CAISO staff at the MSC meeting made CPUC staff more comfortable with the Revised Proposal. In particular, CPUC staff supports measurement of availability over a certain predetermined set of peak hours, and appreciate the CAISO's description of it during the MSC meeting. CPUC staff believes that stakeholders would benefit from broader and more concrete distribution of the detailed clarifications which were presented at the MSC meeting, perhaps in the Final Proposal issued December 24<sup>th</sup>. In the interests of providing assistance in codifying the added details and clarifications, CPUC staff provides definitions of several key terms as we understand them along with added comments below:

- Definition of an outage: As CPUC staff has noted informally, generator owners may require clear direction regarding what type of performance is to be entered as a forced outage in the SLIC system. Although some particulars are discussed in Section 6.1.3 of CAISO’s BPM for Reliability Requirements, specific direction regarding SLIC data is not included in the current Straw Proposal. CPUC staff suggests that the CAISO consider designing and implementing a training program for generators to ensure that generators understand the data and reporting requirements of SLIC. This training program, perhaps explained in some detail during the SLIC stakeholder process or in a training manual, could specifically define how and when to enter a forced outage versus other types of outages to facilitate accurate performance review. In particular, CPUC staff requests more information from the CAISO as to what individual reports CAISO staff is able to run or compile that prevent or work around some of the definitional and computational problems CPUC staff highlights here.

Forced outage in SLIC	Not a forced outage in SLIC
<ol style="list-style-type: none"> <li>1. Equipment failure (Generator or gen tie)</li> <li>2. Generator is to list how much curtailment from PMax</li> </ol>	<ol style="list-style-type: none"> <li>1. Ambient conditions (hot intake water)</li> <li>2. Variable output of intermittent resources due to wind or solar conditions</li> <li>3. Lack of water availability for a hydro unit</li> <li>4. Emissions limits from air/water permits</li> </ol>

- Availability formula: Slide 28 of the presentation to the MSC provides an equation for calculating the availability of a resource. CPUC staff recommends including the formula and explaining the parameters of the formula in the SCP Final Proposal and the resulting tariff language. CPUC staff interprets the equation as described below, but asks CAISO staff for additional clarification of these definitions.
  - Sum of hourly RA MW available from the resource – CPUC staff interprets the numerator of the equation to mean that for each peak hour of the month in which the generator has sold RA capacity, the amount of RA capacity from the unit that is not on forced outage is calculated, and these values are summed over the total peak hours in the month. The amount of RA capacity not on forced outage is determined from SLIC data; SLIC is queried with respect to all forced outages that curtailed capacity over the defined peak hours of a month for that resource, the hourly availability across the peak hours of the month is summed, and availability is determined as whether the residual PMax available after curtailment is greater than or equal to amount of RA capacity that is listed in a generator supply plan. CPUC staff understands that the hourly RA capacity would only be less than RA capacity sold in hours when the total magnitude of forced outage on the unit is greater than the difference between the unit’s PMax and RA sold.
  - Total RA MW of resource – CPUC staff understands this term to represent the number of MW of RA capacity shown on the unit’s supply plan for the month.
  - Total compliance hours of month – CPUC staff understands this term to mean the number of RA peak-hours included in the month, as described on pages 18 through 19 of the Straw Proposal.

- Availability standard: Page 18 of the SCP Straw Proposal states that the target availability will be calculated based on a historic 12 month average of the “RA resource fleet”. CPUC staff supports the Straw Proposal’s statement that the target should be established well in advance of the compliance period. At the MSC meeting, some stakeholders expressed the opinion that the availability standard should be based on multiple years of data (e.g., 24 or 36 months) while others suggested an administratively determined, constant availability target. CPUC staff suggests that the most recent five years of data available should be used to calculate the availability target. For example, in calculating values for 2010 compliance year, 2004-2008 data could be used to calculate and publish the standard by spring, 2009.

### **Use of the Proposed SCP Metric for Fossil-Fueled Generation Only and Transition to GADS Data for Performance Metrics**

While the CAISO currently proposes to use its proprietary SLIC system to collect outage data for performance metrics, CPUC staff understands that the CAISO is willing to transition to using NERC GADS data after 2010, the first year of the SCP tariff, consistent with the practice of other ISOs nationwide in their standard capacity products. The GADS database is maintained by NERC and uses industry-defined data, and would therefore provides a transparent data set that is already used by market participants nationwide<sup>1</sup>.

At the December 11<sup>th</sup> MSC SCP Stakeholder meeting, CAISO staff proposed a target availability metric which is similar to an existing NERC GADS metric, Equivalent Availability Factor (EAF)<sup>2</sup>. Although EAF is only one of several indices, CPUC staff believes that the proposed metric is a good starting point for initial implementation, and market participants understand this metric sufficiently to compute and apply it.

### **Demand Response**

On November 21, 2008 CPUC staff provided initial comments on the SCP Straw Proposal. CPUC staff continues to support the policy position that Demand Response (DR) should be included as a resource under the SCP, and be subject to RA performance standards. CPUC staff also agrees with the CAISO that DR is a unique resource that may require a different approach than that proposed for generation resources. CPUC staff emphasizes that the utilities have a portfolio of DR programs that have unique characteristics, which should be considered by the CAISO in developing the appropriate performance standards.

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<sup>1</sup> NERC GADS Services participated in the development of the Institute of Electrical and Electronic (IEEE) Standard 762, “Definitions for Reporting Electric Generating Unit Reliability Availability and Productivity”. The GADS database uses indices defined within this standard for measuring generating units’ performance.

<sup>2</sup> Appendix F of NERC GADS’s Data Reporting Instructions calculates the Equivalent Availability Factor as:

$$EAF = \frac{AH - EPDH - EFDH - EMDH - ESEDH}{PH} \times 100\%$$

Where AH = Available Hours, EPDH = Equivalent Planned Derated Hours, EFDH = Equivalent Forced Derated Hours, and PH= Period Hours. However, while the CAISO’s proposed standard will assess monthly availability during peak hours, EAF is an all-hours metric.

CAISO staff has recognized the uniqueness among different types of DR resources. Under the Updated Proposal, the CAISO considers the DR resources as either emergency-triggered or dispatchable with a Resource ID (participating load) and applies different SCP requirements accordingly. Emergency-triggered DR resources would be exempt from SCP while dispatchable DR (participating load) resources could be subject to the SCP performance standards (incentives and penalties).

CPUC staff appreciates the CAISO's efforts to address the issues raised by CPUC staff and other parties. However, CPUC staff has some concerns with the Updated Proposal. CPUC staff offer the following comments and recommendations:

1) Dispatchable DR Resources (Participating Load)

CPUC staff is concerned that establishing the types of DR (or DR resources) that qualify for the SCP at this time could effectively predetermine portions of the DR product development before the CAISO's Demand Response - Post Release 1 (Measurement and Performance or MAP) Working Group has the opportunity to fully vet any potential implications for DR resources. CPUC staff believes that the CAISO's MAP Working Group is an appropriate forum where significant input can be provided regarding DR's qualifications for the SCP.

Therefore, CPUC staff recommends that the CAISO defer a decision on this matter and initiate one of the following:

a) Incorporate discussion of the way that DR fits within the SCP into development of the market rules for DR products in CAISO's Demand Response - Post Release 1 (MAP) Working Group , or

b) Wait until the CAISO's Demand Response - Post Release 1 (MAP) Working Group has finished its work in developing the market rules for DR products and then engage in a new stakeholder process to determine how DR fits with a SCP.

2) Emergency Triggered DR Resources

CPUC staff is concerned by the CAISO's proposal to exempt emergency-triggered resources from the SCP requirements without assessing potential impacts on other processes. Currently, the CPUC counts emergency-triggered resources for resource adequacy. This is a very important process to the CPUC. The CPUC needs to ensure that the CAISO's proposed exemption will not hinder CPUC's ability to continue to either count emergency-triggered DR for RA purposes or evaluate the programs' performance in the future. For the reasons discussed above, CPUC staff recommends the CAISO defer a decision on the emergency-triggered DR resource.

3) SCP Enhancement Process

CPUC staff observed that both the SCP Straw Proposal and Updated Proposal do not address specific methodologies to measure DR performance. As stated previously, the CPUC has adopted and is in the process of implementing load impact protocols for the investor-owned utilities' DR programs. CPUC staff continues to emphasize that using the outage and maintenance hours approach to determine resource availability does not fit for DR for obvious reasons. Alternatively, the SCP Straw Proposal suggests that DR providers submit actual data to the CAISO on their performance. CPUC staff emphasizes that the details regarding the exact data and which types of DR resources are submitted should be addressed in a future version of the SCP.

In the Market Surveillance Committee (MSC meeting on December 11, 2008, CAISO staff indicated that these issues would be addressed in the SCP Enhancement process that it envisions after the initial SCP stakeholder process. CPUC staff would appreciate further clarifications from the CAISO regarding the scope and timeline for the SCP enhancement process. A close coordination between the SCP enhancement process and the Demand Response - Post Release 1 (MAP) Working Group processes, as well as the CPUC load impact protocols, is important to ensure consistent policy and methodologies are put in place for DR resources.

### **AS MOO and Other Timing and Coordination Issues**

The SCP Straw Proposal describes a list of “principles” upon which the SCP should be based. Principle 8, on page 16, states that “an RA Resource must offer all their energy and ancillary services.” Due to the importance with which the CAISO has described this additional component of the RA MOO, CPUC staff encourages CAISO to clarify all necessary RA must offer obligations, and encourage LRAs to address these requirements as the LRAs develop their RA programs. To that end, the issue of including an AS MOO as part of the definition of the standard RA MOO is being addressed by the CPUC in Rulemaking 08-01-025. In that proceeding, CPUC staff is developing an implementation proposal for stakeholder review on January 9th. This approach allows for the necessary vetting of the issue in the CPUC RA proceeding and would potentially result in an AS MOO in the SCP for the 2010 compliance year. Language in this SCP should be crafted so that if an AS MOO is added to the RA MOO by a LRA, it will automatically become included in the SCP administered by the CAISO.

### **Change Management Process**

CPUC staff commends the CAISO’s efforts to further address change management and grandfathering issues via the questionnaires due December 19, 2008 related to potential grandfathered contracts. In addition to addressing the size and duration of contracts that may need grandfathering treatment, CPUC staff recommends development of an outline of a potential timeline for enhancements mentioned above (e.g., CAISO staff mentioned possible enhancements to DR metrics or availability metrics for intermittent resources) within one year after adoption of this tariff by FERC. Stakeholders and CAISO would also benefit from additional reports the CAISO could provide that may provide stakeholders with an evaluation of the success of the SCP mechanism, such as tables listing the frequency and magnitude of penalties imposed, or average availability seen for various classes of resources. These additional reports, tied to a timeline for further review of the SCP program, may need brief explanation in the final SCP proposal.

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