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**Issue Paper**

# **Standard Resource Adequacy Capacity Product**

**August 27, 2008**

# Standard Resource Adequacy Capacity Product

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# 1. Introduction

As California's Resource Adequacy (RA) program has evolved over the years participants have identified a need to develop a standardized capacity product to facilitate the selling, buying and trading of capacity to meet RA requirements. Stakeholders have stated to the CAISO that their ability to efficiently transact RA contracts is hindered by the current method of negotiating agreements between parties without a standard product definition for trade. The need for resolution was highlighted during the recent CAISO Market Initiatives Roadmap process where the Standard RA Capacity Product (SCP) was ranked highest out of a list of over 70 initiatives.<sup>1</sup> Many stakeholders have expressed their desire to have this product implemented in the CAISO Tariff as soon as possible so that it may be used as the basis for capacity contracting during 2009 for the 2010 delivery year. As a result, the CAISO is now beginning its stakeholder process to design a standard capacity product.

Significant work on defining an SCP has already been done by a broad coalition of market participants, as described in the document known as the "Joint Proposal" (or "Calpine Proposal") which was filed last year at the California Public Utilities Commission.<sup>2</sup> The Calpine Proposal builds upon the RA Must Offer Obligations (RA-MOO) currently in the CAISO tariff and suggests specific tariff changes to standardize aspects of bilateral RA contracts that are presently addressed by the contracting parties in their bilateral agreements. From the CAISO's perspective, however, an effective SCP will still be a significant undertaking which will require at a minimum, changes to the CAISO tariff, development of common performance standards and the development of business processes at the CAISO as needed to fully implement the SCP.

This paper is meant to provide a common basis to begin a stakeholder process to develop the essential elements of a Standard RA Capacity Product proposal, which will be presented first to the CAISO Board of Governors and then to the Federal Energy Regulatory Commission (FERC) for approval. The paper establishes the scope of the SCP effort by laying out issues that have been identified as critical components which need resolution to meet design objectives. The initial phase of the process will promote a detailed common understanding of the scope of the SCP effort, before entering the next phase of resolving specific design questions.

The paper begins with the proposed timeline for the SCP design process. The next section, "Design Features and Issues to be Resolved" lays out each of the key issue areas. Generally each topic begins with an overview discussion followed by questions that the CAISO poses to stakeholders to consider and provide comments. Following this section is a brief overview of "Other Relevant Background" which contains other sources for pertinent information related to the SCP discussion. The final section identifies the minimum criteria that the CAISO will use to evaluate the final design.

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<sup>1</sup> *Market Initiatives Roadmap Process, Final Report on Ranking of High Priority Market Initiatives* 7/7/2008 <http://caiso.com/1ff9/1ff9aee434530.pdf>

<sup>2</sup> CPUC - AMENDED PROPOSAL OF CALPINE CORPORATION, CORAL POWER, L.L.C., CONSTELLATION ENERGY COMMODITIES GROUP, INC., CONSTELLATION NEWENERGY, INC., J. ARON & COMPANY, PACIFIC GAS AND ELECTRIC COMPANY, STRATEGIC ENERGY, L.L.C., ALLIANCE FOR RETAIL ENERGY MARKETS, WESTERN POWER TRADING FORUM, MIRANT CALIFORNIA, LLC, MIRANT DELTA, LLC, AND MIRANT POTRERO, LLC, APS ENERGY SERVICES, AND ENERGY USERS FORUM ("JOINT PARTIES") FOR A STANDARDIZED RESOURCE ADEQUACY CONTRACT AND ASSOCIATED RESOURCE OBLIGATIONS, R. 05-12-013 Order Instituting Rulemaking to Consider Refinements to and Further Development of the Commission's Resource Adequacy Requirements Program (Dec 12, 2007)

The CAISO will be holding a conference call on September 3, 2008 and is asking for stakeholder comments by September 10, 2008 to the Standard Capacity Product Mailbox, [scpm@caiso.com](mailto:scpm@caiso.com).

## 2. Process and Proposed Timetable

The following timeline was developed with the goal of getting SCP tariff language approved by FERC in time for parties to use the SCP in negotiating RA capacity agreements for the October 2009 Annual Resource Adequacy showing for the 2010 delivery year. The CAISO understands that parties intend to negotiate capacity arrangements for 2010 during the spring of 2009. If it is possible to get a product in place for this timeframe, ideally, tariff language will need to be filed with FERC early in 2009 for approval by early spring. The proposed schedule below is designed to have the project completed within this timeframe. In the end, the top priority for the CAISO is to design an effective Standard Capacity Product that meets the CAISO's and stakeholder objectives.

This paper is the first step in the process. Its purpose is to identify issues that need to be resolved in developing the SCP proposal. The paper does not attempt to provide any CAISO proposal or recommendation at this point. It is intended as a stepping off point to begin earnest discussions surrounding all of the components needed to create a product that will meet the required objectives and stand the test of time. As mentioned above the CAISO will hold a conference call with stakeholders on September 3, 2008 to discuss the contents of this paper, and requests that stakeholders provide written comments by close of business on September 10, 2008 to the SCP Mailbox, [scpm@caiso.com](mailto:scpm@caiso.com). The CAISO seeks comments of two general types; first, comments on the scope of effort as outlined in this document; and second, comments regarding any of the specific SCP design issues identified in this paper or on the upcoming conference call. The CAISO will provide additional guidance for stakeholder comments following the conference call.

<b>Tentative Date</b>	<b>Milestone</b>
August 27, 2008	Publish Issue Paper
September 3, 2008	Stakeholder Conference Call
September 10, 2008	Due Date for Stakeholder Comments
Mid-October, 2008	Publish CAISO Straw Proposal
Late October/Early November, 2008	Stakeholder Engagement followed by Stakeholder written comments
Late November, 2008	Publish Draft Final CAISO Proposal Paper
Early/Mid December, 2008	Stakeholder Engagement followed by Stakeholder written comments
January 2009	MSC Opinion Adopted
January 2009	CAISO Board of Governor's Decision on Standard Capacity Product

### 3. Design Features and Issues to be Resolved

The purpose of defining and formalizing a Standard Resource Adequacy Capacity Product is to simplify and increase the efficiency of the RA program by standardizing the essential features of RA capacity that should be common to all capacity procured by load-serving entities (LSEs) or cleared through a central capacity market to meet RA requirements. By virtue of such standardization the SCP is intended to be readily tradable among market participants and ensure performance of this capacity in CAISO markets. In a later section of this document we suggest other principles and evaluation criteria to be used in developing the SCP proposal.

At the highest level, the SCP is a tradable “tag” which corresponds, MW for MW, to specific electricity supply capacity (including demand response capacity) and which, when submitted by an LSE to its regulatory authority and the CAISO in fulfillment of the LSE’s RA requirements or cleared through the central capacity market, subjects that capacity to the RA-MOO and associated provisions of the CAISO Tariff. Developing a specific SCP proposal for the California context requires resolution of numerous design details and issues. The purpose of this section is to provide, for discussion purposes, an initial assessment of the various details, questions and issues that need to be addressed in developing an SCP proposal on the timetable described in the previous section.

#### 3.1. Overview and Scope of Standard Capacity Product

##### 3.1.1. The RA Process Based on the SCP

The CAISO offers for discussion the following concept of how the RA process would work using the SCP and identifies some of the high-level issues.

1. **Assignment of SCP tags to eligible RA capacity.** The process begins with the CAISO assigning a MW quantity of SCP “tags” to candidate RA resources. The tags will be denominated in MWs of capacity. The quantity of tags a resource can obtain will be based on the resource’s maximum capacity (e.g., nameplate P-max for a generator, certified demand response capability, etc.), adjusted for applicable RA counting rules, CAISO deliverability assessment, and other performance factors. Thus the quantity of tags a resource can obtain will generally align with the concept of Net Qualifying Capacity (NQC) used today for RA purposes.
  - a. How standard is “standard”? Ideally it might be desirable to have only one SCP definition that applies for all RA capacity, but in practice there will likely be a need to differentiate tags based on the resource’s eligibility to count towards a Local Capacity Requirement (LCR) for one of the defined Local Capacity Areas (LCAs), and whether the resource is use-limited or not. A pivotal question is how many “flavors” of SCP tags are needed.
    - i. Currently RA requirements for LSEs include minimum quantities of RA capacity within relevant LCAs. Do RA requirements need to be modified to also include minimum quantities of non-use-limited capacity?
    - ii. Are there other flavors of the SCP that need to be defined?

- b. Should the SCP simply take the existing counting rules and NQC determination process as given, or are there issues with these existing features of the RA process that need to be addressed in conjunction with the SCP? For example, if different flavors of the SCP have different performance requirements, how can we ensure that simply adding up the pre-determined quantity of SCP tags will result in achieving the desired level of overall system reliability?
  - c. Are there other factors besides the counting rules, deliverability assessment, and performance criteria that should figure in the calculation of a resource's MW tag quantity?
  - d. Can we equate the quantity of tags for a resource to its NQC, or is there a need to maintain a distinction?
  - e. What is the duration of a tag? Are tags issued anew each year with a one-year term? Or are tags permanent once they are acquired by a resource? If the latter, must a resource that retires or has its NQC reduced in a subsequent year buy back all or some of its outstanding tags? Can NQC be reduced within a given delivery year based on supplier performance?
2. **Buying and selling SCP tags.** The SCP concept means that once the tags are allocated to resources, they can be bought and sold among market participants. For example, an LSE will purchase tags to meet its RA requirements, and a supplier of RA capacity may purchase tags from other suppliers as a way to buy back or substitute for tags it has previously sold to an LSE.
  3. **Procurement and submission of SCP tags to meet RA requirements.** LSEs will submit the tags they procure, or some evidence of procurement, to the CPUC or their Local Regulatory Authority (LRA) in compliance with their RA requirements. The same information will also be provided to the CAISO to identify the committed RA capacity that will be subject to the RA-MOO provisions. Direct submission of SCP tags by LSEs may be complemented by centralized procurement of SCP tags through a transparent market mechanism. The CAISO understands that after a to-be-determined transition period (discussed later in this paper), the SCP tags will become the universal currency for meeting RA requirements. In other words, in the end state SCP tags will be assigned to all resources eligible to provide RA capacity, and these tags will be procured from those resources to meet 100 percent of the RA requirements for the CAISO system through a combination of bilateral procurement by LSEs and centralized procurement through a capacity market.
  4. **Ensuring performance of RA capacity.** On an ongoing basis the CAISO will track the performance of RA capacity relative to its obligations under the tariff for the duration of its delivery period, and will take appropriate actions when such capacity under-performs.

Specifying the tracking processes and the actions to be taken in response to under-performance clearly are major components of developing the SCP proposal and are discussed further in Section 3.4 "Performance Standards for RA Capacity".

### 3.1.2. Roles and Responsibilities

A starting premise of this effort is that performance obligations on RA capacity and the suppliers thereof, as well as the associated tracking and compliance measures under the SCP, will be the role of the CAISO. As such these elements will be reflected in the CAISO Tariff, building upon the current RA-MOO provisions and enhanced or expanded as needed. Indeed, a point of emphasis among proponents of the SCP is the efficiency of an SCP-based RA process, which

depends on taking such matters out of the bilateral contracting realm by making them CAISO processes.

There are some high-level questions to keep in mind, as we work through the later issues on compliance and enforcement.

1. What is the dividing line between the obligations of suppliers of RA capacity and those of the LSEs? For example, does the LSE's responsibility end with its submission of SCP tags to meet its RA requirements, or would there be circumstances where a supplier's failure to deliver required some action on the part of the LSE whose submitted RA capacity is affected?
2. As noted earlier, different types of RA capacity (e.g., by performance characteristics and location) may require different "flavors" of SCP tags. The success of the SCP will be measured not only by how it enhances the efficiency of the RA process, but also by how well it ensures sufficient quantity and performance of RA capacity to achieve the desired level of system reliability. Thus it will be important to view the definition of the SCP and its various flavors in the context of how RA requirements are set when there are different counting rules for different resource types, to be sure that the end result adds up to the desired reliability level.
3. What is the appropriate process to ensure that these matters are addressed in a comprehensive manner, when some issues such as counting rules have been within the jurisdiction of the CPUC and other LRAs, while others such as the performance of RA capacity are proposed for the CAISO Tariff and FERC?

### **3.1.3 Obligations of RA Capacity**

Some parties suggest that RA capacity would be required to offer only energy to the CAISO. The CAISO believes that all RA resources should be required to offer both energy and ancillary services (AS) to the extent that they are certified to provide AS.

1. What is required of the RA capacity or supplier within the delivery period? In particular, what modifications to the existing RA-MOO are needed?
2. RA-MOO for ancillary services. To the extent RA capacity is certified to provide AS, it must be available to the CAISO to supply AS if needed.
3. What other obligations need to be specified?
4. How standard is standard? Suppose the baseline or generic standard is defined for RA capacity that is not submitted to meet an LCR and is not use-limited. Then how do the performance obligations need to differ for (a) LCR capacity, (b) use-limited RA capacity, (c) non-generation, such as demand response or pumped-storage hydro?
5. How shall existing RA contracts be treated? To what extent, and under what conditions, should existing RA contracts be "grandfathered" if they do not fully comply with the specifications of the SCP?
6. The start-up of the MRTU markets will bring at least two changes relative to today's CAISO markets that are particularly relevant for the RA-MOO: the establishment of a day-ahead energy market, and the co-optimization of energy and AS within the CAISO markets. Are there any particular distinctions that must be incorporated into the SCP definition to address differences between today's markets and MRTU?

### **3.2. Implementation Issues**

This section focuses on three important topics: 1) What should be included in the initial tariff filing? 2) When will parties begin using the new SCP? and 3) How will existing contracts transition to the new SCP regime.

1. Given that an early 2009 tariff filing with FERC is the working target to enable parties to begin RA capacity negotiations based on the SCP as early as possible, what elements of the SCP must be in place to meet both the commercial and the reliability objectives of the SCP by the desired target?
  - a. Realistically what do we hope to accomplish in this short timeframe? What are the questions that need to be resolved in this timeframe?
  - b. What elements of the SCP are critical to meeting the stated objectives and must be filed immediately and which pieces can wait? For instance, are there things that can be implemented with a manual work around until a future filing? Are there elements that can wait for further stakeholder discussion and design development?
  - c. Should this be a staged or phased implementation with planned enhancements in future filings?
2. After a reasonable transition period (to be determined), the SCP tags will become the universal currency whereby LSEs fulfill their RA requirements. In other words, in the end state SCP tags will be assigned to all resources eligible to provide RA capacity and each LSE will meet 100 percent of its RA requirement by procuring and submitting SCP tags. During the transition period, some previously-procured capacity that may not fully meet the specifications of the SCP may be “grandfathered” as acceptable fulfillment of RA requirements.
  - a. How should the transition period be defined?
  - b. What criteria should be used to define categories of RA resources eligible for grandfathering during the transition period? What shares of RA capacity do these categories represent, and what are the practical implications – e.g., any relaxation of performance obligations, reduction in tradability, impacts on existing supply contracts – of allowing them to be grandfathered?
  - c. What is the change management process?
3. Assuming the SCP proposal is filed and approved by FERC in spring 2009, should the SCP take effect immediately for use in the monthly RA showings for the remainder of 2009, or only come into play for RA capacity procured for delivery in 2010?

### **3.3. Facilitating Procurement, Registration and Compliance Showings**

It is important that we distinguish between compliance by RA capacity and its suppliers with the RA-MOO and related provisions of the CAISO Tariff, versus compliance of LSEs with their RA requirements.

First, several stakeholders have recommended that procurement be transacted using a confirmation letter that is supported by a master power purchase and sale agreement. In informal discussions with stakeholders in June, the CAISO learned that some stakeholders support use of the confirmation letter that has been used for procurement by SCE and others for



well over a year; while other stakeholders believe that the SCE confirmation letter should not be used. The CAISO needs to understand why certain parties favor one confirmation letter or another, or alternatively, what would be the preferred instrument for transferring the SCP tag from the supply resource to which it applies to an LSE or another party.

Second, some stakeholders have suggested that the scope of the SCP effort include an electronic bulletin board that would facilitate commercial transactions for RA capacity. The bulletin board would list eligible RA capacity (presumably NQC) and the amounts of capacity that are available for procurement. It has been suggested that this system could be set up similar to the CAISO's Firm Transmission Rights system.

Third, stakeholders also have expressed support for creation of an RA Registry that would be used to electronically collect and maintain information on all RA capacity. It has been suggested that one primary function of the RA Registry would be to allow market participants to register their procurement of RA capacity in the registry and the associated capacity would be bound to the terms of the CAISO Tariff upon and through the effective dates of the procurement. It would be perfectly clear when the RA obligations start and end. Proponents also suggest that such a registry could ensure that capacity is not double-counted. Stakeholders suggest that the RA Registry could be developed by the CAISO or a third party, and paid for with transaction fees or a cost allocation mechanism.

Finally, proponents of the RA Registry also suggest that the RA Registry could be set up to not only to track and record ownership of RA capacity, but that it could also function as the clearinghouse/data center for compliance information for both LSEs and for suppliers of RA capacity, thereby eliminating the need for LSEs to submit year-ahead and month-ahead RA showings and for Scheduling Coordinators (SCs) to submit monthly supply plans.

1. Should a confirmation letter be used to procure RA capacity? If so, what should be the form and standard content of such confirmation letter? If not, what is the preferred vehicle for transferring SCP tags between parties?
2. To what extent, if at all, does the SCP proposal need to deal with LSE compliance with RA obligations?
  - a. What systems or infrastructure is needed or desirable to facilitate trading of SCP tags? How can we meet such needs by a relatively simple interim approach for the near term, to be developed later into an end-state approach?
  - b. What systems or infrastructure are needed or desirable to track the ownership of SCP tags? How can we meet such needs by a relatively simple interim approach for the near term, to be developed later into an end-state approach?
  - c. What systems or infrastructure are needed or desirable for registering LSE tag submissions in fulfillment of their RA obligations? How can we meet such needs by a relatively simple interim approach for the near term, to be developed later into an end-state approach?
3. An electronic bulletin board may provide benefits to the stakeholders. However, is this element essential to getting the SCP up and running? Could the SCP function without it? Can this element be deferred until a later time? Could it be developed by a third party?
4. Is an electronic RA Registry essential to the SCP effort, particularly if it may impact the ability to make a FERC filing in early 2009? Could the RA Registry be developed in a later phase?

5. What is required of the RA capacity or supplier prior to the delivery period? For example, should the CAISO assume continued use of current procedures such as submission of supply plans, or should alternatives or enhancements be considered within the scope of the SCP? If an RA Registry is created, does it need to include a level of sophistication that would allow the elimination of year-ahead and month-ahead showings and supply plans? Is this aspect of the RA Registry essential? There also is the reality that the CAISO requires supply plans from its SCs because it is the SCs with whom it has a contractual relationship; not the LSEs. RA resource data is currently validated through the supply plans and it is the supply plan information on RA capacity that is entered into and used in the CAISO operating systems. Also, will the CPUC be interested in departing from the current RA convention of year-ahead and month-ahead showings submitted directly to it by its jurisdictional entities? In essence, is it realistic to expect that an electronic mechanism can replace the current system of showings (both RA showings and supply plans)?
6. Is there a reason why an RA Registry is essential to prevent double-counting of RA capacity? The CAISO and CPUC have been validating RA capacity for several years now to ensure that no double counting occurs. Is the current system sufficient?

### **3.4. Performance Standards for RA Capacity**

This section discusses the performance obligations of RA resources. The next section discusses penalties and other corrective actions for under-performance.

The CAISO agrees with stakeholders that effective performance standards must be developed for RA capacity and that metrics used to track compliance with such standards should be fully transparent. The first step is to clearly define the obligations of RA resources. Then the performance of RA resources in meeting those obligations would be tracked using pre-specified metrics.

At the outset, the CAISO proposes the following: although fulfillment of RA obligations is important each hour and each day year-round, it is desirable to develop a performance metric that captures the concept that there are certain hours where capacity is especially crucial. Thus the performance metric should track how well RA resources perform when the CAISO really needs those resources. The CAISO believes that it is important that availability during peak load periods be considered in tracking availability. The availability metric that is chosen needs to incorporate this concept.

Many stakeholders supported the proposal for a standardized RA contract and associated RA obligations in the Joint Proposal that was submitted to the CPUC on November 16, 2007 as part of the CPUC's ongoing RA proceedings. The Joint Proposal addresses, among other things, performance obligations, compliance tracking and penalties. Although much work has gone into the Joint Proposal, and many stakeholders have suggested that its provisions be adopted by the CAISO and put into a FERC filing, the CAISO believes that it needs to poll the stakeholders and obtain their feedback to ensure that all sides are heard and alternative proposals can be considered. Moreover, certain elements of the proposal need to be further developed for an effective SCP.

A key feature of the Joint Proposal is that performance obligations are to be borne solely by suppliers. LSEs, once they have procured the qualified capacity needed to fulfill their RA obligations, can submit that information to the CAISO and have no further responsibility for the performance of the RA resource and performance is left entirely to the supplier. If there are

deficiencies, then the supplier is responsible directly to the CAISO. The essence is that the performance obligation is taken out of bilateral contracts and placed in the CAISO Tariff, and the suppliers are directly responsible to the CAISO for the performance of the RA capacity.

The Joint Proposal contains a suggested standard for availability, which is that an RA resource that is not on a forced outage or unavailable due to Force Majeure or curtailment by a Transmission Owner must be available for dispatch by the CAISO in 80 percent or more of the hours in a month, and, if not so available shall be subject to penalties.

A different approach was proposed by the California Forward Capacity Market Advocates in its August 3, 2007 filing in the CPUC's Track 2 Centralized Capacity Market proceeding.<sup>3</sup> In that proposal, parties supported use of an availability metric that was developed by PJM for its Reliability Pricing Model. That metric would measure availability during a small number of hours that historically have been the times of greatest system stress.<sup>4</sup>

A third approach for adjusting availability payments is provided in the CAISO's February 8, 2008 filing to FERC for the Interim Capacity Procurement Mechanism.<sup>5</sup> In that filing the target availability is 95%. Penalties are incurred when availability is below the target as set forth in the table in Appendix F, Schedule 6 of the CAISO filing.

Stakeholders have said, and the CAISO agrees, that there may be alternative metrics for specifying availability obligations and associated penalties and remedies, and these provisions will need to be addressed in the CAISO stakeholder process. For example, one option that might be worth exploring relative to an adjustment to an NQC value is to evaluate a resource's performance over a multi-year rolling period, and to perhaps augment those results with a "trend" analysis and/or perhaps a "shift" analysis. In this way, multiple data over a period of years could be considered and a resource would not be subject to adjustment based on a single metric for determining chronic, unacceptable under-performance. This is just one possible option under consideration. An important aspect of the stakeholder process will be to draw out the alternatives and vet them thoroughly.

1. Do all stakeholders agree that all obligations for performance should be on the supplier? Are there certain circumstances where the LSE should be required to take some action, particularly if there is a long lead time in which to act?
2. What challenges are posed by use-limited resources and demand response resources? What metrics will allow fair and reasonable treatment of these and all other types of resources?
3. How shall an outage be defined for purposes of calculating availability metrics? What is an acceptable forced outage rate? Should it vary by technology type?
4. Should availability factors be broken out and standards developed for specific classes of resources to reflect their unique operating characteristics, i.e., combustion turbine, hydroelectric, demand response, wind, solar?

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<sup>3</sup> California Public Utilities Commission: *Staff Recommendation on Capacity Market Structure : A Report on the August 2007 Workshops in Collaboration with the CAISO*, R.05-12-013 (Jan. 18, 2008)

<sup>4</sup> The CAISO notes that PJM has an "Availability Penalty" for non-compliance by generating units called an "Generating Unit Peak-Hour Period Availability Charge" whose purpose is stated as follows: "To penalize for lower availability during top ~500 hours than average 5-year historic peak availability."

<sup>5</sup> California Independent System Operator Corporation, Docket Nos. ER08-\_\_\_\_-000 and ER09-615 Interim Capacity Procurement Mechanism (Feb. 8, 2008).

### 3.5. Penalties and Other Corrective Actions

The CAISO is considering the use of financial penalties on RA capacity within the delivery period for insufficient performance within the same period (e.g., penalties charged by the CAISO through the regular settlement statement process), perhaps complemented by a reduction in a resource's NQC or quantity of SCP tags. In essence, the CAISO would use financial penalties for general day-to-day performance shortfalls over the course of each CAISO settlement statement period. Severe, long-term or chronic under-performance may trigger an impact on NQC or the resource's quantity of SCP tags.

Parties have talked about two types of corrective actions for under-performance of RA resources: (1) adjustments, in the form of financial penalties which the CAISO would assess to the SC for an RA resource when that resource's availability was found to be inadequate (so-called availability adjustments); and (2) adjustments to the NQC value, which would reduce the amount of capacity that a resource could sell as RA capacity. The financial adjustment could be applied monthly, or at some other interval during the current compliance year. The change in the NQC value could be applied prospectively and applicable during a future RA compliance year (at least that is how some parties suggest that it might work). Some parties believe that applying both types of adjustments for the same incident or incidents of poor performance is inappropriate and recommend use of one adjustment or another, but not both adjustments. This will be discussed during the stakeholder process. Regarding the second type of adjustment, perhaps this type of adjustment should only be applied in cases of chronic under-performance (where "chronic" would need to be defined).

In the Joint Proposal, all non-performance of an RA resource is the responsibility of the supplier. As such, penalties and corrective measures are applied to the supplier of the RA capacity (in the CAISO settlement structure, any financial adjustments would be assessed to the SC for the RA Resource). The Joint Proposal provides the following suggested penalties that would reduce the monthly payment to the supplier based on poor performance as follows:

- If non-local RA Capacity is available for dispatch less than 80 percent of the hours in a month, but is available for dispatch in 50 percent or more of the hours in a month, the resource shall be subject to a penalty in the amount of the product of (a) the percentage of hours of unavailability, (b) the amount of RA Capacity that has been conveyed and registered in the RA Registry, and (c) the Proxy Price (defined below) for such month.
- If such non-local RA Capacity is available for dispatch less than 50 percent of the hours in a month, the resource shall be subject to penalty in the amount of the product of (a) the amount of RA Capacity that has been conveyed and registered in the RA Registry, and (b) the Proxy Price for such month.
- The Proxy Price is the lesser of (a) \$40/kW-year divided by 12,<sup>6</sup> which would provide an incentive for units to return to service before a month's end, or (b) such replacement price that the CAISO verifies it has incurred, acting in a commercially reasonable manner, to purchase replacement RA Capacity.

The Joint Proposal also discusses potential de-rates to the NQC of a resource, but it contemplates that poor performance would lead to a de-rate only for the compliance year subsequent to the compliance year wherein the poor performance occurred. Further, the proposal suggests that de-rates should only occur where there has been chronic under-performance and that de-rating based on non-performance should be effective prospectively for RA contracts negotiated after the effective date of the SCP tariff modification.

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<sup>6</sup> The Joint Proposal notes that the penalty could be applied on a daily basis and capped at the monthly payment amount (i.e., \$3.33/kW-month).

Questions applicable to this section of the Issue Paper are listed below.

1. What are the criteria which would trigger procurement of replacement capacity to replace RA capacity that does not or cannot perform sufficiently, as opposed to relying on the margin built into Planning Reserve Margin-based (PRM) RA requirements?
  - a. Should the “forced is forced” principle be continued as is, or is some modification needed in conjunction with the SCP proposal?
  - b. How should costs of replacement capacity be allocated?
2. When, if ever, should insufficient performance by RA capacity have an impact on the LSE that submitted the capacity to meet its RA requirements?

For example, in the context of the current monthly RA model, suppose an RA resource is suddenly forced out and will be out for three months of its contracted delivery period. Should the LSE that submitted that resource be required to obtain replacement capacity by the next monthly showing?

3. How might seasonal penalty rates be applied to ensure a very high incentive for resources to perform in high demand periods? One option is the type used by PJM in its Reliability Pricing Model. In that model, resources are penalized or rewarded if performance is below or above target performance during peak load hours. There are substantial penalties and rewards for performance during peak load hours and additional but less stringent penalties for forced outages outside of the peak periods.
4. To what degree and under what circumstances should the adjustment of NQC of a resource occur?

### **3.6. Credit Requirements**

In the event that financial penalties are triggered due to non-performance or under-performance, the CAISO should have assurance that it will receive payment. Each RA supplier’s liability must be evaluated and a credit requirement developed. Credit requirements would also be needed for SCs who represent RA resources, because any financial penalties triggered during the delivery period would accrue through the CAISO settlement system to the relevant SC.

1. Some market participants suggest that this requirement for suppliers should be based on the maximum penalty that could be assessed. What is correct method for calculating the optimal credit requirement?
2. Should the credit requirement required for the SCP stand alone or should the liability associated with this product be netted against the overall Accounts Receivable/Accounts Payable (AR/AP) of the SC associated with the RA supplier?

## **4. Other Relevant Background**

In a number of places this paper references the Joint Proposal which was submitted by stakeholders to the CPUC on November 16, 2007 as part of the ongoing RA proceeding. It provides a discussion of important product elements including draft tariff language. In addition there are other significant sources of information that contribute to the understanding of this matter. Other relevant documents include:

- SCE Confirmation Letter. Currently there is little uniformity in the contracts that are in place to trade capacity and therefore no standard product to trade. This is a key reason that stakeholders would like to see a standard series of rules set up in the CAISO Tariff. Southern California Edison's current Master Power Purchase and Sale Agreement Confirmation Letter provides an example of the type of product that participants are using today. This document was developed in 2005 with the participation of 85 market participants representing 36 entities
- The California Public Utilities Commission's RA proceeding, Phase 2 Track 2 (R.05-12-013) dealing with Long Term RA issues contains a wealth of information regarding considerations for a standard capacity product. The parties' proposals and comments have added to the discussion, particularly the CFCM proposal which contains information related to performance incentives (mentioned above in Section 3.4 "Performance Standards for RA Capacity"). In addition, the Staff report published on January 18, 2008 provides information that can be used as a basis for understanding including a general definition of a capacity product and insight into the supplier qualifications, obligations and performance incentives set by other ISOs.
- New England ISO<sup>7</sup> and PJM<sup>8</sup> have capacity markets in place and although there is no defined product, they each have provisions in their market rules related to:
  - Qualifications to become a supplier of capacity including a certification or registration process, information regarding operation and maintenance of units, testing and compliance.
  - Performance obligations and penalties for non-performance in the form of availability rules and reduced payments due to unavailability.

## 5. Minimum Criteria for Evaluating Potential Solution Approaches

1. The SCP provisions must provide effective performance incentives for RA capacity to ensure that the capacity is available to the CAISO for commitment, scheduling and dispatch through the CAISO markets as needed.
2. The SCP provisions must be developed for compatibility with other crucial aspects of the RA program, particularly the counting rules for different resource types, to ensure that when SCP tags are submitted to meet RA requirements the total amount of available capacity is sufficient to maintain the desired level of system reliability.
3. The SCP must be readily tradable between market participants. In this regard, the SCP design must strike a reasonable balance between the abstract ideal of a single standard product and the practical need to distinguish between crucial operational characteristics such as location and use-limited status.
4. The SCP definition must work well both for bilateral procurement and for transacting within a centralized capacity market.

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<sup>7</sup> ISO New England Inc., FERC Electric Tariff No. 3, Market Rule 1 Section III.13,

<sup>8</sup> PJM Manual 18: PJM Capacity Market, Revision 3, Effective 4/01/2008;  
<http://www.pjm.com/contributions/pjm-manuals/manuals.html>