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**Revised Draft Final Proposal**  
**Standard Capacity Product II**

**April 6, 2010**

# Standard Capacity Product II

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## 1. Executive Summary

There are two purposes for the Standard Capacity Product Phase II (SCP II) market design 1) Comply with the SCP FERC Order dated June 26, 2009 which required the ISO to implement SCP availability standards for intermittent resources<sup>1</sup>. 2) Clarify some of the existing SCP tariff wording. This revised draft final proposal reflects the final scope and result of the SCP II effort. The key elements of this proposal are:

- Implement availability standards, incentives, unit substitution and grandfathering for resources whose qualifying capacity value (QC) is determined by historical output;
- Implement clarifications to the existing SCP Tariff provisions to further elucidate the rules that are currently in place.

During the stakeholder process some related RA elements were added and removed from the scope of this design. First, Demand Response (DR) RA resources were included as part of the initiative until further evaluation revealed that a separate market design and stakeholder process would be required to align with the timing of other DR efforts and also so that emphasis could be placed on designing the appropriate availability standards for these unique resources. Later on the streamlining of the non-resource specific system RA (NRS-RA) resources was added to the scope and ultimately removed because it was subsumed in another ongoing stakeholder process devoted to NRS-RA. Finally, at stakeholder's request the ISO developed two proposals for including rules regarding the obligation of suppliers to replace RA capacity scheduled for planned outage. The goal of including this in SCP II was to enhance the fungibility and tradability of SCP by removing this obligation from load serving entities (currently administered by the California Public Utilities Commission (PUC)). In the end, most stakeholders did not support either of the ISO's proposals and the ISO decided to move this important element of the RA process into another upcoming stakeholder process to develop a more comprehensive solution.

Under this proposal the ISO has been ordered by FERC to extend SCP to RA resources whose QC is determined by historical output. Several issues have been raised during the stakeholder process related to applying the SCP provisions to these resources. The ISO believes that the current methodology that includes forced outages in the QC determination of these resources provides the proper availability incentives for resource adequacy and avoids the issues regarding the application of the SCP availability charges and payments to these resources. However, the ISO has been given clear direction from the FERC to apply the SCP standards to these resources. Therefore, the ISO has been working with the PUC in their concurrent RA proceeding<sup>2</sup> to align the counting rules for these types of resources to ensure that potential double counting of outages does not occur. As a result the ISO has developed a methodology to calculate the monthly availability of these resources based on the idea that a forced outage or temperature related ambient derate make the nominal capacity less than 100% available during an SCP assessment hour and that derate may proportionately reduce its ability to fully deliver its NQC in that hour. In the event that the actual energy delivered in that assessment hour is greater than the RA MW listed on the supply plan, the resource will be considered fully available.

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<sup>1</sup> These resources include wind, solar, non-dispatchable cogeneration, non-dispatchable biomass and non-dispatchable geothermal facilities.

<sup>2</sup> *Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations*. Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judge Determining the Scope, Schedule, and Need for Hearing in the Proceeding December 23, 2009.

The second element of this proposal deals with clarification of existing SCP tariff language. There are two minor corrections to the RA section of the tariff (Section 40) that are being updated to clarify their meaning. First, in Section 40.9.4.2 which provides for the types of outages that can affect the availability of an RA resource, the phrase “Forced Outages, non-ambient de-rates, or temperature-related ambient de-rates” will be modified to remove the term “non-ambient de-rates” because non-ambient de-rates are included in the definition of Forced Outage. Second, Section 40.9.6.3 states that excess non-availability funds should be allocated in accordance with Section 11.5.2.3, which allocates funds to metered demand in the corresponding default LAP. We believe that the allocation should go to all metered CAISO Demand. Accordingly the ISO is proposing to modify this section.

## 2. Introduction

In 2008 the implementation of a Standard Capacity Product (SCP) was considered by stakeholders to be a crucial step forward in streamlining California’s Resource Adequacy (RA) program. As the RA program evolved over the years, participants identified a need to develop a standardized capacity product to facilitate the selling, buying and trading of capacity to meet RA requirements. Stakeholders affirmed to the ISO that their ability to efficiently transact RA contracts was hindered by the existing method of negotiating agreements between parties without a standard product definition for trade. The need for resolution was highlighted during the ISO’s Market Initiatives Roadmap process where the Standard RA Capacity Product was ranked highest priority out of a list of over 70 initiatives.<sup>3</sup> Stakeholders expressed their desire to have SCP implemented in the ISO Tariff as soon as possible in anticipation of the 2010 delivery year. As a result, in 2008 and 2009 the ISO conducted a stakeholder process for designing the SCP. Ultimately, the SCP initiative was approved by the ISO Board of Governors in March 2009. The ISO submitted its filing which was accepted in part and rejected in part by FERC in its Order dated June 26, 2009 (June 26 Order).

In the June 26 Order FERC granted temporary exemption from the SCP availability charges<sup>4</sup> and payments for:

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<sup>3</sup> *Market Initiatives Roadmap Process, Final Report on Ranking of High Priority Market Initiatives 7/7/2008* <http://caiso.com/1ff9/1ff9aee434530.pdf>

<sup>4</sup> Tariff Section 40.9.2 (<http://www.caiso.com/2471/24719720e850.pdf>) defines the types of resources that are currently exempt from the availability charges and payments of the Standard Capacity Product. Specifically subsection (4) describes these types of resources that are temporarily deferred: *Demand response resources and resources whose Qualifying Capacity value is determined by historical output from the CPUC or a Local Regulatory Authority that does not adjust the historical output data to correct for the possible double-counting of Outages will not be used to determine Availability Standards, will not be subject to Non-Availability Charges or Availability Incentive Payments, and will not be subject to the additional Outage reporting requirements of this Section 40.9.*

- Resources whose qualifying capacity value is determined by the CPUC or a LRA using historical output that has not been adjusted to correct for the possible double-counting of outages<sup>5</sup> (this includes wind, solar, non-dispatchable cogeneration, non-dispatchable biomass and non-dispatchable geothermal facilities) and
- Demand Response

With regard to the first bullet the Order states:

*56. We accept the CAISO's proposal to exempt from the proposed availability standards resources whose qualifying capacity is determined by historical output. As the CAISO explains, existing resource adequacy rules treat certain resources differently in determining their amount of qualifying capacity. Under the existing CPUC market rules, resources whose qualifying capacity is determined by historical output are penalized for poor performance through a reduction of their qualifying capacity. Therefore, it would be a harsh result to apply the same availability standards, which are designed to penalize poor performance, to resources already subject to qualifying capacity adjustments. We find that doing so could potentially result in penalizing such resources twice for the same outage or derate. As long as this counting feature of the market continues, we find the proposed exemption to be permissible and not unduly discriminatory...*

*58. To be clear, we find the CAISO's proposal to exempt these resources to be just and reasonable and not unduly discriminatory because these issues are being addressed in ongoing CAISO and CPUC proceedings and the exemptions are, therefore, temporary. To that end, we direct the CAISO to work with stakeholders, the CPUC, and local regulatory authorities to determine when the proposed exemptions should ultimately sunset, and the CAISO and stakeholders should diligently work toward a sunset in a timely manner...*

This initiative known as "SCP II" proposes a methodology for ending temporary exemption for these types of resources in compliance with the June 26 Order. As explained later, a separate stakeholder process will be conducted to develop the appropriate availability metrics for Demand Response.

Two tariff clarifications are also included in this SCP II proposal. Neither of these changes will affect the SCP design; instead they further elucidate the rules that are currently in place.

Section 3 of this paper will provide more detail regarding the scope of this initiative and will cover the reasoning for those items, which, although they may have been considered, during the process, ended up out of scope. These items include ending the temporary exemption for Demand Response RA resources, changing the provisions for Non-Resource Specific RA System Resources, and tariff provisions to consider the replacement of RA capacity scheduled for planned outage.

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<sup>5</sup> Under the existing CPUC RA counting rules, resources whose qualifying capacity is determined by historical output are penalized for poor performance by reducing their qualifying capacity for the following compliance year. The historical output used in the calculation is not currently adjusted to reflect the decrease in output that may arise during the period of a forced outage. Under SCP, the actual availability of a resource in a given month is determined based on the extent to which it has forced outages that impact its RA capacity. Applying both of these standards to these types of resources could be exceedingly severe because a resource potentially could be penalized for the same outage (or derate) twice.

Section 4 of the paper covers the methodology for the availability standard proposed for intermittent RA resources.

The last section, Section 5, outlines the remaining elements of the stakeholder process. The ISO intends bring this initiative to the Board of Governors in May followed by a FERC filing in June. All comments should be submitted to [scpm@caiso.com](mailto:scpm@caiso.com).

### **3. Scope of the SCP II Proposal**

The stakeholder process for this initiative seemed ever-changing. On December 4, 2009 the ISO released the first SCP II Issue Paper. The scope of the initiative spanned the availability standards, availability incentives, unit substitution and grandfathering for temporarily exempt RA resources. Two topics were specifically excluded – the consideration of including scheduled outages within SCP (also known as the “replacement rule”) and implementation issues associated with the existing SCP program. This initial vision was limited to complying with the June 26 Order.

Following a stakeholder conference call, stakeholder comments, involvement in the California Public Utilities Commission (PUC) 2009 RA proceeding and internal research and analysis the ISO issued its straw SCP II proposal on January 19, 2010. The scope changed in a number of ways. First, it was determined that demand response (DR) would require a separate stakeholder process due to the ongoing process of defining the DR products and determining the appropriate availability measures. Second, a separate stakeholder process had commenced to address the outage and generated bid issues associated with Non-Resource Specific System Resources (NRS-RA) which would provide the ability to streamline the availability measures of these RA resources within SCP. This new topic was included in the scope of SCP II. Third, based on feedback from stakeholders and the PUC, the ISO offered to work collaboratively with the PUC to transition the treatment of scheduled outages for RA purposes from the PUC’s replacement rule for load serving entities to another approach putting the obligation for replacing this capacity on the supplier. Finally, the ISO included some clarifications to the existing SCP tariff provisions in this document.

On February 19, the SCP II vision was further refined in the Draft Final Proposal. In this document, the ISO provided some additional clarity to the availability calculation and, based on additional feedback regarding our straw proposal for the replacement rule, refined the ISO’s approach to the supplier’s obligation to substitute for capacity on planned outage. Additionally, due to timing issues, the NRS-RA topic was moved over to the stakeholder process dealing with that overall issue and was eliminated from the SCP II initiative. In addition, changes were made to the availability calculation to now include a proportional derate attribute to reflect availability for resources whose qualifying capacity (QC) is determined by historical output. Additional detail regarding this methodology can be found in Section 4 of this paper. The replacement rule provisions changed also. In the previous straw proposal, a supplier could choose whether to provide a replacement for their RA capacity that was going to have a scheduled outage (although they ran the risk of ICPM charges). In the draft final proposal, the procurement of replacement of RA capacity on planned outage became mandatory.

A number of stakeholders had concerns about both the availability calculation and the proposed replacement rule in the draft final proposal. In an effort to provide more time to gain broader stakeholder support and iron out further details, the original plan to take the SCP II proposal to the Board of Governors in March changed and a May Board date was established. In March, the ISO issued a paper offering some alternative options to the availability calculation and the replacement rule for stakeholder review and comment. First, the ISO offered an alternative to

the availability calculation which considers the actual energy a resource produced during a forced outage in assessing the SCP metric. Also, some stakeholders suggested that cogeneration facilities should be handled differently than other intermittent RA resources and while this was considered, the ISO concluded that all intermittents should be handled in the same fashion. Second, both of the previous versions of replacement rule (straw proposal and draft final proposal) were reviewed and refined. The ISO also proposed that the PUC maintain its current replacement rules to allow further exploration of alternative approaches.

As a result of all of these considerations and discussions, this revised draft final proposal reflects the final scope of the SCP II effort. The key elements of this proposal are:

- Implement availability standards, incentives, unit substitution and grandfathering for resources whose qualifying capacity value is determined by historical output;
- Implement clarifications to the existing SCP Tariff provisions to further elucidate the rules that are currently in place.

The following elements are not in scope:

- Implementation issues associated with the existing SCP process
- Demand Response – The ISO will begin a separate stakeholder process to design the implementation of SCP for these resources
- NRS-RA modifications – These are being handled in another stakeholder process
- Replacing RA capacity on scheduled outage – This effort should remain with the PUC until the ISO develops a comprehensive plan for RA capacity in the upcoming stakeholder process related to the replacement of ICPM.

#### **4. Implementation of SCP for Intermittent Resources**

In its proposal on Phase 1 of the CPUC rulemaking proceeding on RA matters for 2011,<sup>6</sup> the ISO suggested changes to the CPUC RA counting rules that would resolve the potential double counting issue for resources whose QC value is determined by historical output and clear a path for the ISO to implement the non-availability charges and payments to these types of resources. The ISO proposed that the CPUC modify its counting methodology for these resources by either (1) eliminating the forced outage and derate hours from its calculation of QC for RA resources, or (2) use proxy energy output values for these hours. The second approach conforms to the methodology that the CPUC previously approved to account for planned outages in the QC calculation for these types of resources.<sup>7</sup> In this methodology the CPUC would rely on historical outage data it has gathered to determine the hours in which a proxy value would be inserted to determine a QC value, so that there would be no adverse impact on a resource's QC due to forced outages or derates.

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<sup>6</sup> *Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local Procurement Obligations R.09-10-032*, California Independent System Operator Corporation Proposals on Phase 1 Issues.  
<http://www.caiso.com/271c/271c77ad5da50.pdf>

<sup>7</sup> *Order Instituting Rulemaking to Consider Annual Revisions to Local Procurement Obligations and Refinements to the Resource Adequacy Program*. Decision Adopting Local Procurement Obligations for 2010 and Further Refining the Resource Adequacy Program Decision 09-06-028 June 18, 2009 pg 29 [http://docs.cpuc.ca.gov/published/FINAL\\_DECISION/102755.htm](http://docs.cpuc.ca.gov/published/FINAL_DECISION/102755.htm)

In compliance with the June 26 Order, it is clear that implementing SCP for resources whose QC value is determined by historical output is not limited solely to CPUC jurisdictional entities. These types of RA resources who are subject to LRAs other than the CPUC will also be subject to the standard capacity product provisions with the implementation of SCP II. Currently LRAs use their own methodology to establish their qualifying capacity criteria, and in the event that they don't the ISO will fall back on Section 40.8 of the Tariff, *CAISO Default Qualifying Capacity Criteria* to establish these values.

Consistent with its proposal to the CPUC, the ISO in this initiative proposes to extend to the exempt intermittent resources the same availability incentives, unit substitution and grandfathering rules that are currently in effect and applicable to other RA resources.

Under the current ISO SCP tariff provisions for RA Resources, the ISO establishes a unique target availability value for each month of the compliance year, calculated using the historic actual availability of the RA resource fleet during the availability assessment hours during each respective month over each of the past three years.<sup>8</sup> This historical data is acquired from SLIC. The ISO proposes to continue this methodology to the extent that the data is available for these types of resources. If SLIC does not contain the monthly data for the past three years, the ISO will treat these resources in a similar manner to new RA resources. This means that as the outage data is collected it will be included in future availability standard calculations.

The source of forced outage and temperature related ambient derate information for these resources will also conform to the current SCP rules<sup>9</sup>. All resources over 10 MW are required to report this information in the ISO's SLIC system per Tariff Section 9.3.10. Resources that are 1 MW or more but which are below the 10 MW threshold are required to provide this outage and derate information as described in Tariff Section 40.9.5 and in the *BPM for Reliability Requirements* Section 8.4.1.1. RA resources between 1 and 10 MW are required to report their forced outage information in SLIC no later than 3 days after the end of the month. ISO Operating Procedure T-113 also provides additional detail regarding this process. As described in Tariff Section 40.9.2, devoted to the SCP availability calculations non-availability will still be determined based on forced outages and temperature related ambient derates. In their verbal and written comments some stakeholders expressed concern regarding the applicability of these SLIC reporting types to their various forms of generation. In general, forced outages are those situations where a resource is expected to be available but due to some type of unexpected occurrence (e.g. mechanical failure) the resource cannot meet its capacity obligation. This means that, for example, normal variations in output from a Qualifying Facility, will not constitute a forced outage.

For RA resources whose NQC is based on their historical energy production,<sup>10</sup> the ISO proposes the following methodology for calculating the actual monthly SCP availability. The proposed methodology is based on the principle that the observed historical production of such

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<sup>8</sup> Per Tariff Section 40.9.4.1 there are a few types of RA resources that are currently excluded from this calculation. They are (1) resources exempted in Tariff Section 40.9.2 (2) Non-Resource Specific System Resources, (3) resources between 1 and 10 MW subject to Section 40.9.5 until such time that the CAISO has received outage reports and can begin to utilize that data, and (4) use-limited resources for compliance years 2010 and 2011.

<sup>9</sup> In a separate stakeholder process intermittent resource outage reporting rules have been implemented to refine the forecasting accuracy; however they may result in more stringent application of availability standards for intermittent resources. The ISO intends to address this issue and ensure that all RA resources forced outages are tracked at the same level.

<sup>10</sup> These types of resources include wind, solar, non-dispatchable cogeneration, non-dispatchable biomass and non-dispatchable geothermal facilities.

a resource, on which its NQC is based, occurred during hours when the nominal capacity of the resource (e.g., its Pmax) was fully available.<sup>11</sup> For such a resource, any forced outage or temperature related ambient derate that makes its nominal capacity less than fully available during an SCP assessment hour will proportionately reduce its ability to fully deliver its NQC in that hour. After the month if the actual energy delivered was greater than or equal to the RA sold then the RA resource will be considered 100% available. However, if the actual energy delivered was less than the RA sold the ISO will measure availability on the maximum of the actual energy delivered or the proportional derate value.

### Determination of Proportional Derate value

#### Resource information

Pmax	100 MW
Net Qualifying Capacity	15 MW
RA Sold	10 MW

#### Example 1 – 20 MW Derate

In this example assume that the resource’s Pmax is derated from 100 MW to 80 MW due to a forced outage or temperature-related ambient derate. Because the NQC of 15 MW was calculated based on the resource’s production when the 100 MW of capacity was fully available, having the resource only 80 percent available (i.e., 80 MW capacity instead of 100 MW) will limit its availability to meet its RA obligation to 12 MW, or 80 percent of its 15 MW NQC. If the resource had sold 15 MW of RA capacity, this derate would have caused it to be 3 MW short for purposes of its SCP availability metric. This example assumed, however, the resource sold only 10 MW of RA capacity, which is less than the 12 MW it is available to provide, and therefore the resource is considered to be 100 percent available and its SCP metric is not affected by the 20 percent derate to its Pmax.

#### Example 2 – 50 MW Derate

In this example assume that the resource is derated from 100 MW to 50 MW. Because its NQC of 15 MW was based on the resource’s production when the 100 MW of capacity was fully available, having the resource only 50 percent available will limit its availability to meet its RA obligation to 7.5 MW, or 50 percent of its 15 MW NQC. Since the resource sold 10 MW of RA capacity and is now capable of providing only 7.5 MW of RA, the resource is considered to be only 75 percent available for purposes of the SCP availability metric in this hour.

### Consideration of the Actual Energy Delivered

Using Example 2 as a guide, the modified calculation would compare the resource’s actual energy delivery to the ISO grid during the same hour, and assess the SCP metric for the hour based on the formula:

$$\text{Min}(100\%, \text{Max}(\text{energy delivery}; \text{proportional derate metric})).$$

Example 1. Actual energy delivery for the hour = 12 MWh. Resource is 100% available.

Example 2. Actual energy delivery for the hour = 9 MWh. Resource is 90% available.

Example 3. Actual energy delivery for the hour = 7.5 MWh or less. Resource is 75% available.

<sup>11</sup> Accordingly, as noted above, in parallel to the ISO’s SCP II initiative the ISO has proposed revisions to the CPUC’s qualifying capacity methodology for such resources to ensure that those hours in which a resource’s nominal capacity was not fully available will not adversely affect the resource’s qualifying capacity value.

The availability calculation for other generating units and System Resources will not be changed by this methodology.

It is anticipated that the unit substitution policy in Tariff Section 40.9.4.2.1 and grandfathering rules in tariff section 40.9.2 (3) will apply, as they do today although the date for grandfathering of these resources has changed from previous proposals. All SCP II-type RA capacity under a resource specific supply contract that was signed or submitted to the applicable regulatory authority prior to FERC's approval of this filing will be eligible for grandfathering as described in the tariff.<sup>12</sup>

## 5. Clarifications to Existing SCP Tariff Provisions

There are two minor changes which the ISO is proposing to clarify existing tariff language.

- Section 40.9.4.2 – Availability Calculation for a Resource Adequacy Resource – describes the availability determination as follows:

*“A Resource Adequacy Resource will be determined to be less than one hundred percent (100%) available in a given month if it has any Forced Outages, non-ambient derates, or temperature-related ambient derates that impact the availability of its designated Resource Adequacy Capacity during the Availability Assessment Hours of that month.”*

The phrase *“Forced Outages, non-ambient derates, or temperature-related ambient derates”* suggests that there are three different states that could affect the availability of a resource instead of two. The ISO proposes to correct the language to read *“Forced Outages or temperature-related ambient derates.”*

- Section 40.9.6.3 – Availability Incentive Payment – This section of the tariff describes the methodology for determining the eligibility of RA Resources to receive an availability incentive payment, the amount that they will be paid and in the event there are excess funds after all RA Resources have been awarded their availability incentive payments, the manner in which excess funds will be allocated. Because the amount of potential availability incentive payment is capped at three times the non-availability charge rate for that trade month, it is possible that excess funds may exist. The last sentence in this paragraph explains the allocation of any excess non-availability charge funds that are not distributed to eligible RA resources in a trade month. Under Section 40.9.6.3:

*“Any remaining Non-Availability Charge funds that are not distributed to eligible Resource Adequacy Resources will be credited against the Real-Time neutrality charge for that Trade Month in accordance with Section 11.5.2.3”.*

The cite to Section 11.5.2.3, Revenue Neutrality Resulting from Changes in LAP Load Distribution Factors, does not reflect the ISO's intent in the previous SCP stakeholder initiative. Accordingly, the ISO proposes to change the wording *“credited against the Real-Time neutrality charge for that Trade Month in accordance with Section 11.5.2.3”* to read *“credited against the Real-Time neutrality charge to metered CAISO Demand for that Trade Month.”* The original language referring to the methodology of Section 11.5.2.3 would limit the allocation of funds to metered CAISO Demand<sup>13</sup> that is

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<sup>12</sup> Previous proposals for SCP II we contemplated a grandfathering date of June 28, 2009.

<sup>13</sup> CAISO Demand is defined in the tariff as “Power delivered to Load Internal to CAISO Balancing Authority Area.” Metered CAISO Demand includes all CAISO Demand that is metered.

scheduled at one of the three Default LAPs. The ISO now proposes to clarify Section 40.9.6.3 to reflect the original intent of the SCP proposal, which was to allocate the funds to all metered CAISO Demand, irrespective of whether it is scheduled at a Default LAP or at another internal location.

## **6. Next Steps**

April 9 – SCP II Revised Draft Final Proposal Presentation available on ISO website (<http://caiso.com/2479/2479e7362d1e0.html>)

April 13 –Conference Call with Stakeholders

April 20 – Stakeholder Comments due to [scpm@caiso.com](mailto:scpm@caiso.com)

May 17, 18 – Board of Governors meeting