

January 30, 2014

The Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

**Re: California Independent System Operator Corporation  
Docket No. ER14-\_\_\_\_\_ - 000-**

**Resource Adequacy One-For-Many Manual Substitution Process**

Dear Secretary Bose:

The California Independent System Operator Corporation (“ISO”) hereby submits for filing the attached amendments to its Fifth Replacement FERC Electric Tariff.<sup>1</sup> The proposed amendments will revise ISO Tariff Section 40.9.4.2.1 to make clear that resources with available capacity from a single resource may substitute for multiple resource adequacy resources on a forced outage or de-rate, and to set forth the terms under which such multiple substitutions may occur. This amendment does not substantially modify the existing policy for substituting capacity under the standard capacity product previously approved by the Commission.<sup>2</sup> Rather it clarifies the tariff and provides the terms and conditions under which a resource can utilize its full range of capacity for multiple forced outages.

The ISO requests an effective date for the amendments proposed in this filing of April 1, 2014.

**I. EXECUTIVE SUMMARY**

The ISO is responsible for the reliable operation of the electric grid. The

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<sup>1</sup> The ISO makes this filing pursuant to section 205 of the Federal Power Act, 16 U.S.C. § 825d (2006) and 18 C.F.R. Part 35.

<sup>2</sup> *Cal. Indep. Sys. Operator Corp*, 127 FERC ¶ 61,298 (2009). On August 10, 2009, the ISO submitted a compliance filing in Docket No. ER09-1064-003 to make certain modifications to the SCP mechanism required in that order. On May 20, 2010, the Commission issued an Order on Compliance Filing that conditionally accepted the ISO’s compliance filing subject to further modification to eliminate use of a separate formula in instances where the resource’s monthly availability is less than the resource’s minimum operating value. *Cal. Indep. Sys. Operator Corp*, 131 FERC ¶ 61,148 (2010).

resource adequacy program is designed to contribute to grid reliability by ensuring that sufficient resources are available to the ISO's day-ahead and real-time markets and that sufficient resources are available in constrained areas through the local resource adequacy capacity requirements.

Once a resource is committed to provide resource adequacy capacity, the ISO expects that the full amount of that capacity will be available to the ISO, unless the resource is on a forced equipment outage or de-rate, which diminishes its ability to provide the full amount of its capacity obligation.

The ISO's standard capacity product availability calculation is designed to provide an incentive for resources to make sure their capacity is available to ISO markets. Under the standard capacity product provisions in ISO tariff section 40.9, the ISO measures the availability of resource adequacy capacity and assesses non-availability charges and availability incentive payments to discourage poor operating performance and reward high availability.

Section 40.9.4.2.1 allows resource adequacy resources on a forced outage or de-rate to request ISO approval to substitute available capacity from alternate resources for the resource adequacy capacity that is not available. Substitution benefits both resource adequacy resources and reliability. It allows the resource adequacy resource to mitigate the impact of the forced outage or de-rate on its availability determination and potentially reduce or avoid non-availability charges. It benefits reliability by filling in the shortfall in resource adequacy capacity caused by a forced outage or de-rate and helping ensure that the ISO has the capacity it needs to reliably operate the grid. The tariff provides that the ISO may grant a substitution request in its reasonable discretion.

The systems currently in place to process resource adequacy information and outage requests do not have the functionality necessary to automate the submission and processing of requests by single resources to provide substitute capacity for multiple resources at the same time. Since forced outages occur with little or no notice, the ISO's operators must review these requests in real time and decide whether to approve the substitution.

As an enhancement to the existing process, the ISO is developing an automated process that will provide full capability for market participants to engage in a multiple resource substitution. The ISO currently anticipates that this functionality can be implemented in Fall 2014. Stakeholders are concerned about the timing of when enhancements for multiple substitutions will be operational and about the potentially significant costs they may incur until the automated solution is in place.

In this filing, the ISO is proposing to establish an interim manual process to facilitate substitution by alternate resources, under specific conditions, for up to two resource adequacy resources on a forced outage or de-rate. The ISO believes that this

improved process, with appropriate limits to manage the workload caused by a manual process, is a workable temporary solution and will reduce the potential cost exposure of market participants to standard capacity product non-availability charges. The ISO is also proposing revisions to ISO tariff section 40.9.4.2.1 to clarify the multiple substitution process and clarify the language of the provision. More specifically, the ISO proposes to include details in its tariff regarding –

- how resource adequacy resources on a forced outage or de-rate may use one or multiple resources to provide substitute capacity;
- how a single resource may provide substitute capacity for up to two resource adequacy resources at the same time;
- include in the tariff the ISO's existing practices for determining resource adequacy substitute capacity availability, treating unbid capacity by a substitute resource, and allocating the unavailability of a substitute resource that has an outage or de-rate during the substitution period; and
- re-format and edit certain language in existing provisions in Section 40.9.4.2.1 to improve clarity and understanding.

## **II. BACKGROUND**

### **A. Resource Adequacy Program**

The California Public Utilities Commission ("CPUC") adopted the resource adequacy program to meet two fundamental goals: (1) to provide sufficient resource adequacy capacity to the ISO when and where needed to support the safe and reliable operation of the ISO controlled grid in real time; and (2) to provide appropriate incentives for the siting and construction of new resources needed for reliability in the future. The CPUC resource adequacy program consists of a one-year forward and monthly demonstration by load serving entities that they have procured sufficient capacity to meet their resource adequacy requirement.

Under the CPUC's resource adequacy program, jurisdictional load serving entities, including energy service providers, must procure at least 90 percent of their resource adequacy requirement for the five summer months in compliance with a year-ahead forward commitment obligation. Additionally, if their load is located in any of the local capacity areas defined by the ISO, they must procure 100 percent of their need for local capacity for the entire year in the year-ahead timeframe. The CPUC jurisdictional load serving entities also have a month-ahead forward commitment obligation. They must procure 100 percent of the capacity needed to meet their resource adequacy requirement -- their total forecast load for each month plus a planning reserve margin of 15 percent.

## **B. ISO Basic Resource Adequacy Provisions**

The ISO works collaboratively with the CPUC and other local regulatory authorities in the development of the procurement requirements so that the capacity procured by their respective load serving entities is sufficient and adequate to meet the ISO's operational needs. The ISO tariff requires scheduling coordinators for all load serving entities to demonstrate that they have met their applicable resource adequacy requirements. If a local regulatory authority has not adopted explicit resource adequacy provisions, the tariff includes default provisions for scheduling coordinators of those load serving entities.

ISO tariff sections 40.2.2.4 and 40.2.3.4 require scheduling coordinators for load serving entities to submit resource adequacy plans to the ISO in the year-ahead and month-ahead timeframes to demonstrate that their resource adequacy requirements will be met for that reporting period. Section 40.4.7.1 requires scheduling coordinators for the resources that will provide resource adequacy capacity to submit year-ahead and monthly supply plans to the ISO that verify their commitment to provide the listed resource adequacy capacity. Under sections 40.4.7.3 and 40.7, the ISO cross-validates the resource adequacy plans and supply plans to ensure that the resource adequacy requirements are being met. Scheduling coordinators for the resources designated as resource adequacy resources must make their resource adequacy capacity available to the ISO in accordance with the requirements of section 40.5 or section 40.6, as applicable.

## **C. Standard Capacity Product**

As the resource adequacy program evolved, ISO market participants identified a need for a standardized availability measure to facilitate the selling, buying and trading of capacity to meet resource adequacy requirements. Following an extensive stakeholder process, the ISO on April 28, 2009 filed a proposal to adopt a standard capacity product, with availability standards and financial incentives, and an ancillary services must-offer obligation, for resource adequacy resources. On June 26, 2009, the Commission issued an order approving the ISO's tariff revisions, with modifications, to become effective on January 1, 2010.<sup>3</sup> The ISO implemented the standard capacity product and must offer obligation on that date.

On June 22, 2010, the ISO filed proposed amendments to (1) extend the standard capacity product to resource adequacy resources with qualifying capacity determined by historical output; 2) establish a three-month advisory period for the settlement of non-availability charges and availability incentive payments applicable to these resources; 3) modify tariff sections 40.9.4.2, 40.9.5, and 40.9.6.1(3) to clarify the types of outages considered when determining the non-availability of resource

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<sup>3</sup> *Ibid.*

adequacy resources; and 4) correct section 40.9.6.3 to ensure that excess non-availability funds are properly allocated to load. The Commission approved these revisions on August 20, 2010,<sup>4</sup> subject to a compliance filing by the ISO that was approved on April 13, 2011.<sup>5</sup>

Consistent with the authority provided in these orders, the ISO tracks the resource adequacy capacity subject to the standard capacity product provisions in section 40.9 and determines the availability of that capacity during specified availability assessment hours of each month (*i.e.*, the extent to which the total amount of capacity for each resource adequacy resource is available and not on a forced equipment outage or de-rate) in accordance with sections 40.9.4.2 and 40.9.7.2. The ISO then compares each resource's calculated availability to a monthly availability standard and calculates whether the resource should be assessed non-availability charges or should receive availability incentive payments depending on the direction and percentage by which the resource deviated from the monthly standard capacity product availability standard in accordance with sections 40.9.6 and 40.9.7.

#### **D. Substitution Option**

The ISO's filing to implement the standard capacity product included a substitution option for resource adequacy capacity on a forced outage or de-rate. Section 40.9.4.2.1 allows a scheduling coordinator to provide substitute capacity for its resource adequacy capacity on a forced outage or de-rate in order to mitigate the impact of that forced outage or de-rate on the availability calculation for that resource.

For resource adequacy resources in a local capacity area, section 40.9.4.2.1 provides that the scheduling coordinator may pre-qualify an alternate resource for substitution by submitting a prequalification request in accordance with the form and schedule specified in the Business Practice Manual. The ISO will approve the pre-qualification request for use during the compliance year if the alternate resource is located at the same bus as the resource adequacy resource and has similar operational characteristics. Substitutions of pre-qualified resources may be requested prior to or in real time. The scheduling coordinator for the resource adequacy resource also may, prior to the close of the day-ahead market, request to substitute a non-pre-qualified resource. The ISO will grant the request if the alternate resource is (i) located at the same bus as the resource adequacy resource and meets the ISO's operational needs, or (ii) if not located at the same bus, is located in the same local capacity area and meets the ISO's effectiveness and operational needs, including size of resource, as determined by the CAISO in its reasonable discretion.

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<sup>4</sup> *Cal. Indep. Sys. Operator Corp*, 132 FERC ¶ 61,148 (2010).

<sup>5</sup> *Cal. Indep. Sys. Operator Corp*, Docket No. ER10-2781-000, Letter Order dated April 13, 2011.

For non-local capacity area resources that meet system resource adequacy needs, section 40.9.4.2.1 provides that the scheduling coordinator may request to provide substitute capacity for a forced outage or de-rate prior to the close of the day-ahead market. The ISO will approve the request if the substitute resource provides the same MW quantity of deliverable capacity as the original resource adequacy resource. For an external resource that is a non-resource specific system resource that provides resource adequacy capacity, the ISO will approve a substitution request if the alternate resource is internal to the ISO balancing authority area and provides the same MW quantity of deliverable capacity as the original resource adequacy resource.

The substitution option is the focus of this filing. In response to stakeholder requests, the ISO is revising this provision to clarify the multiple substitution process.

#### **E. Stakeholder Process**

On December 10, 2013, the ISO issued a market notice to initiate a stakeholder process to develop an interim manual process that allows scheduling coordinators to use non-resource adequacy capacity from one resource to substitute for more than one resource adequacy resource on a forced outage. The market notice announced that, in response to stakeholder requests, the ISO is developing a manual one-for-many substitution process as an interim measure until automated functionality for multiple substitutions can be developed and deployed. The ISO included in the market notice a description of stakeholder concerns and the general features of the proposed interim manual process.

Following the market notice, the ISO conducted an abbreviated stakeholder initiative. The ISO took this approach because of the limited scope of the initiative and related tariff revisions, and the importance to stakeholders for the ISO to have the manual process in place as quickly as possible,

The ISO issued the draft final proposal in the initiative and posted draft tariff language on December 23, 2013. Stakeholders submitted comments on the draft final proposal and the draft tariff language on January 3 and 7, 2014. The ISO received comments from five stakeholders. In response to the comments, the ISO posted revised draft tariff language on January 10, 2014 and conducted a stakeholder web conference to discuss the comments and revisions.<sup>6</sup> On January 17, 21, and 22, 2014, respectively, three stakeholders submitted further comments on the proposed tariff language.

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<sup>6</sup> The complete record of the stakeholder process (including the issue paper, straw proposal, draft final proposals, presentations, stakeholder comments, and draft tariff language can be found at <http://www.caiso.com/informed/Pages/StakeholderProcesses/FlexibleCapacityProcurement.aspx>.

### **III. DESCRIPTION OF TARIFF AMENDMENTS**

#### **A. Authority for Multiple Substitutions**

The proposed tariff modifications include the terms and conditions under which scheduling coordinators may perform substitutions for multiple forced outages. Existing section 40.9.4.2.1 of the ISO tariff allows a resource adequacy resource on a forced outage or de-rate to request ISO approval to use substitute capacity for its unavailable resource adequacy capacity. Substitution allows the resource adequacy resource to meet its resource adequacy obligation and thereby reduce or avoid non-availability charges under the standard capacity product.

The ISO proposes to amend Section 40.9.4.2.1(a) to expressly state that the scheduling coordinator for a resource adequacy resource on a forced outage or de-rate may provide resource adequacy substitute capacity for the resource adequacy capacity that is unavailable. The ISO also proposes to add a new provision in Section 40.9.4.2.1(e) that expressly states that the resource adequacy substitute capacity may be provided by multiple alternate resources, included a resource already providing resource adequacy substitute capacity for one or more different resource adequacy resources. The request must be submitted prior to the close of the day-ahead market for the next trading day; except that, if each alternate resource is pre-qualified to substitute for the requesting resource adequacy resource and if none of the alternate resources are already providing resource adequacy substitute capacity for another resource adequacy resource, then the substitution request may be submitted in real time. If the request includes an alternate resource providing resource adequacy substitute capacity for another resource adequacy resource during the same period, that alternate resource must submit a request to provide substitute capacity in accordance with Section 40.9.4.2.1(f). Section 40.9.4.2.1(f) is a new provision that expressly states that the scheduling coordinator for a resource providing resource adequacy substitute capacity may provide that capacity for up to two resource adequacy resources at the same time.

Certain stakeholders argued that these changes are necessary to enable these options because, in their opinion, the current tariff does not prohibit the ISO from allowing the one for many unit substitutions and suggests that the BPM could be modified to accommodate the manual substitution process.

The ISO submits that the proposed tariff provisions are necessary as they express the terms under which the various substitution options can be provided. The current tariff language does not explicitly state that the ISO must provide the substitution option nor does it provide the conditions under which this option would be provided. Including the explicit language provides both clarity and authority for the service. This clarification is reasonable and necessary for appropriate understanding and use of the multiple substitution option by resource adequacy resources and alternate resources.

## **B. Interim Manual Process**

The substitution option for one resource to substitute for up to two resource adequacy resources under the proposed tariff amendments will be implemented through an interim manual process, which will facilitate substitution by alternate resources. The manual process is necessary because, under the current procedures, the ISO would not be able to consider the proposed substitutions in a reliable manner. As discussed above, an alternate resource is limited to substituting for up to two resource adequacy resources on a forced outage or de-rate. This limitation is necessary to make the manual process manageable and implementable.

The manual process will not apply to the first substitution by a resource. If a resource is not already providing substitute capacity for a resource adequacy resource, the substitution process is not changing. The request for the initial substitution will continue to be handled through the existing systems.

The manual process will only apply to the request of a resource to provide substitute capacity for a second resource adequacy resource on a forced outage or de-rate. Under proposed section 40.9.4.2.1(f), the scheduling coordinator for a resource already providing substitute capacity must use the manual process to request ISO approval for the second substitution. The request must be submitted prior to the close of the applicable day-ahead market, which is currently 10:00 a.m. on the day before the operating day.

Because of the manual nature of the process for second substitution, these requests will require additional time for the ISO to review. Under proposed section 40.9.4.2.1(g), the ISO will respond to the manual substitution requests and include approved substitutions in ISO systems within five business days after receiving the request. If the requested substitution period begins before the ISO responds to the request, approved substitutions will be effective on the requested start date and the scheduling coordinator for the resource providing the substitute capacity may begin bidding into the ISO markets as of that start date.

Stakeholders are generally supportive of the ISO's interim manual process. Certain stakeholders raised a concern that the draft tariff language memorializes the "one-for-two" substitution restriction while omitting any explicit reference to the temporary or interim nature of the restriction and asked confirmation of the temporary nature of the manual process. The ISO believes it is inappropriate to include such language in the tariff, but confirms that the ISO is continuing to implement more robust automation that will enhance the substitution options. The ISO anticipates that the automation enhancement will be deployed in late 2014. The ISO also anticipates that the limitations necessary under the manual process will not be necessary with automation. It is likely, therefore, that the automated feature will require an additional



tariff change. The ISO will file a timely tariff amendment to implement the automated process and terminate the limitations needed to support the manual process.

One stakeholder expressed concern with the length of the proposed five-business-day period for the ISO to approve multiple substitutions under the interim manual process. The stakeholder suggested that the ISO instead allow the substitution once the forced outage is over so the resource on forced outage has sufficient time to find acceptable capacity that did bid or schedule into the ISO markets and have 100 percent certainty that the substitution would offset its unavailability and not result in any non-availability charges.

The ISO declined to accept this request because it would change the approval process in a manner inconsistent with existing policy and tariff provisions that contemplate submission of substitution requests in advance of the substitution, or in real time for pre-qualified substitute resources. The ISO does not intend to modify the existing substitution requirements with this filing. Rather the scope of this filing is to enhance its tariff authority so that it can provide participants the additional flexibility requested.

One stakeholder suggested that the five-business day review period is not necessary if a resource within the same local capacity area was simply allowed to substitute its capacity for capacity within the same local capacity area. The ISO intends to process this type of request as expeditiously as possible, and agrees that substituting local capacity for resource adequacy local capacity should not raise issues and should have a quick turnaround. The proposed tariff requirement is not intended to prevent the ISO from approving a multiple substitution request by one resource prior to the end of the five-business day period. However, the ISO has determined that it is possible that the approval process for multiple substitutions by one resource may take as long as five days under certain circumstances and believes it is important to state this term in the tariff.

The manual process is an interim measure until the automated functionality is in place this Fall. The ISO believes that this improved process is a workable, temporary solution and will reduce the potential cost exposure of market participants to standard capacity product non-availability charges. The limitation on the number of multiple substitutions that one alternate resource can make is necessary to manage the workload caused by a manual process.

### **C. ISO Substitution Practices**

The proposed tariff modifications include in the tariff existing ISO practices related to substitute capacity. Under the authority in section 40.9.4.2.1, the ISO has developed certain practices in its treatment of substitute capacity. Specifically, those practices relate to how to determine the availability of substitute capacity, how to treat

any substitute capacity that the alternate resource does not bid into the market, and how to allocate the unavailability of a substitute resource that has an outage or de-rate during the substitution period.

## **1. Availability Criteria**

When the ISO exercises its discretion to accept a substitution request, one of the fundamental criteria is that the resource adequacy substitute capacity be operationally available to the ISO. Proposed section 40.9.4.2.1(b) includes this requirement in the tariff. Capacity on, or scheduled to be on, a forced outage, approved maintenance outage, or de-rate, is not operationally available and does not qualify as resource adequacy substitute capacity for the duration of the period that it is unavailable. Similarly, capacity that is already committed as resource adequacy replacement capacity, regulatory must-run capacity, backstop capacity under the capacity procurement mechanism, or resource adequacy capacity in a monthly supply plan does not qualify as resource adequacy substitute capacity for the duration of that commitment. This applies to a substitution request whether it is for single or multiple substitutions.

Once capacity has been accepted as resource adequacy substitute capacity, that capacity does not qualify as resource adequacy replacement capacity, regulatory must run capacity, backstop capacity under the capacity procurement mechanism, or resource adequacy capacity in a monthly supply plan, for the duration of the substitution. A resource may provide resource adequacy substitute capacity for multiple resource adequacy resources in accordance with Section 40.9.4.2.1(f); however, the same capacity committed as substitute capacity for one resource adequacy resource does not qualify as substitute capacity for a different resource adequacy resource during the same substitution period.

The proposed criterion are reasonable and necessary to ensure that the capacity being relied on as resource adequacy substitute capacity is available to the ISO to meet reliability needs and is not being double counted as various forms of committed capacity. No objections to this provision were raised during the stakeholder initiative.

## **2. Effectiveness and Operational Needs Criteria**

Another important criteria used by the ISO to evaluate a substitution request is that the alternate resource meet the ISO's effectiveness and operational needs, as determined in its reasonable discretion. Proposed sections 40.9.4.2.1(c)(2), (d), (e)(1) and (2), and (f), include this requirement in the tariff for non-pre-qualified local substitution in the same local capacity area, non-local capacity area resource substitution, non-resource-specific system resource substitution, resource adequacy substitute capacity provided from multiple resources, and multiple substitution by one resource.

A stakeholder claimed that the ISO's assessment of whether substitute capacity meets the ISO's effectiveness and operational requirements imposes higher requirements on the substitute capacity than on the original capacity without adequate justification or explanation. The ISO disagrees. Consideration of the effectiveness and operational requirements of a proposed substitute resource is already included in the tariff in renumbered section 40.9.4.2.1(c)(2). The tariff modifications simply extend those existing criteria to the ISO's consideration of other substitution requests, which were previously not stipulated as possible in the tariff. This ensures that substitution requests will be given similar consideration and consistent treatment.

### **3. Obligation**

Proposed section 40.9.4.2.1(h) states that, to the extent a resource provides resource adequacy substitute capacity, the resource must meet and comply with all of the requirements in section 40 applicable to resource adequacy substitute capacity for the duration of the substitution.

This provision serves two purposes: it requires all resource adequacy substitute capacity to comply with the same tariff requirements and it makes clear that if an alternate resource is using only part of its capacity to provide substitute capacity, then only that substitute capacity is subject to the tariff requirements, not the entire resource.

### **4. Treatment of Unbid Capacity**

Proposed section 40.9.4.2.1(i) provides that, if the scheduling coordinator for resource adequacy substitute capacity does not submit bids or self-schedules for all or a portion of that capacity in accordance with Section 40.6, the ISO will treat the unbid capacity as unavailable for purposes of the standard capacity product, will reflect that unavailability in the standard capacity product availability calculation for the resource adequacy resource on the forced outage or de-rate; and will not submit generated bids for unbid substitute capacity; except that, if a resource providing both resource adequacy capacity and resource adequacy substitute capacity has a partial forced outage or de-rate, the ISO will submit generated bids for the resource up to the MW amount of its resource adequacy capacity commitment or its MW amount of availability, whichever is lower.

A stakeholder contended that this tariff language would change the impact on the original resource if the substitute resource fails to submit a bid. That is not correct. The language in proposed section 40.9.4.2.1(i) that attributes an outage at an alternate resource to the resource adequacy resource for which it is substituting is consistent with language already in the tariff. The calculation of availability set forth in section 40.9.6.1 makes it clear that an outage at an alternate resource is counted against the availability of the resource adequacy resource for which it is substituting.

The ISO included a description of how unbid substitute capacity is treated in section 40.9.4.2.1(i) in order to be consistent with the existing availability calculation. The provision additionally makes it clear that a forced outage or de-rate at a substitute resource is attributed to the resource adequacy resource.

## **5. Allocation**

Proposed section 40.9.4.2.1(j) states that, in the event the resource providing resource adequacy substitute capacity has an outage or de-rate during the substitution period, the ISO will allocate the MW reduction in available capacity on a pro-rata basis to each commitment of the resource to provide resource adequacy capacity, resource adequacy replacement capacity, resource adequacy substitute capacity, and backstop capacity under the capacity procurement mechanism.

A stakeholder commented that the proposed tariff language would change the allocation of costs that is in the current tariff for a de-rate on the substituting capacity. That is not correct. The allocation provision is consistent with the ISO's current practices of allocating an outage or de-rate pro-rata across a resource's capacity commitments and only extends the practice to the additional substitutions.

### **D. Other Modifications**

The ISO has included "RA Substitute Capacity as a newly defined term in the tariff. RA substitute capacity is defined as "Capacity that substitutes for a Resource Adequacy Resource that is on a Forced Outage or de-rate as provided in Section 40.9.4.2.1."

A stakeholder commented that the term "RA Substitute Capacity" is outside the meaning of a standard capacity product. In support of this contention, the stakeholder explained that a standard capacity product means all capacity is treated the same, has the same must offer obligations and is applicable for the same availability incentives and non-availability charges.

This is not correct. The new definition is a term of reference. It does not change the obligations of substitute capacity that are already in the tariff. The stakeholder's suggestion that resource adequacy substitute capacity have the same obligations as other resource adequacy capacity is inconsistent with provisions already in the tariff and is not being proposed by the ISO.

The remainder of the tariff revisions in section 40.9.4.2.1 are simply format changes and linguistic edits to improve the clarity of the language and increase understanding of the provisions and their scope. The ISO also proposes to amend section 40.9.6.1 as a conforming change to include the term "RA Substitute Capacity".

#### **IV. EFFECTIVE DATE**

The ISO requests an effective date of April 1, 2014 for the proposed tariff modifications.

While the ISO has proposed the manual “one-for-many” substitution process as an interim measure, the ISO is not requesting an end date for that provision in this filing. The ISO intends that the manual process in proposed section 40.0.4.2.1(f) remain in place until the ISO develops an automated process for multiple substitution and deploys that new functionality, targeted for later this year. The deployment date for the automated system is not yet certain. Once the deployment date is set, the ISO will file any necessary tariff amendments to implement the automated process and terminate the manual process.

#### **V. COMMUNICATIONS**

Communications regarding this filing should be addressed to the following individuals, whose names should be placed on the official service list established by the Secretary with respect to this submittal:

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#### **VI. SERVICE**

The ISO has served copies of this transmittal letter, and all attachments, on the CPUC, the California Energy Commission, and all parties with effective Scheduling Coordinator Service Agreements under the ISO tariff. In addition, the ISO is posting this transmittal letter and all attachments on the ISO website.

## VII. ATTACHMENTS

The following documents, in addition to this transmittal letter, support the instant filing:

**Attachment A**      Revised ISO Tariff Sheets – Clean

**Attachment B**      Revised ISO Tariff Sheets – Blacklined

## VIII. CONCLUSION

For the reasons set forth above, the ISO respectfully requests that the Commission approve the tariff modifications in Attachments A and B, effective as of April 1, 2014.

Respectfully submitted,

**By: /s/ Beth Ann Burns**

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Counsel for the California Independent  
System Operator Corporation

Dated: January 30, 2014

**Attachment A – Clean**

**Resource Adequacy One-For-Many Manual Substitution Process**

**California Independent System Operator Corporation**

**January 30, 2014**

#### **40.9.4.2.1 RA Substitute Capacity**

- (a) **Substitution Option.** A Scheduling Coordinator may provide RA Substitute Capacity for its Resource Adequacy Capacity that is on a Forced Outage or de-rate in order to mitigate the impact of the Forced Outage or de-rate on its Resource Adequacy Resource's availability calculation.
- (b) **RA Substitute Capacity Availability.**
- (1) RA Substitute Capacity must be operationally available to the CAISO:
  - (2) Capacity on, or scheduled to be on, a Forced Outage, Approved Maintenance Outage, or de-rate, is not operationally available and shall not qualify to be RA Substitute Capacity for the duration of the period that it is unavailable.
  - (3) RA Replacement Capacity, RMR Capacity, CPM Capacity, and capacity committed to be Resource Adequacy Capacity in a monthly Supply Plan shall not qualify to be RA Substitute Capacity for the duration of that commitment.
  - (4) RA Substitute Capacity shall not qualify to be RA Replacement Capacity, RMR Capacity, CPM Capacity, or Resource Adequacy Capacity in a monthly Supply Plan, for the duration of the substitution.
  - (5) If a resource provides RA Substitute Capacity for multiple Resource Adequacy Resources under Section 40.9.4.2.1(f), the same capacity committed as RA Substitute Capacity for one Resource Adequacy Resource shall not qualify as RA Substitute Capacity for a different Resource Adequacy Resource during the same substitution period.
- (c) **Local Capacity Area Resource Substitution.**
- (1) **Pre-Qualification.** A Scheduling Coordinator for a Local Capacity Area Resource Adequacy Resource may pre-qualify alternate resources for substitution by submitting a prequalification request to the CAISO in accordance with the form and schedule specified in the Business Practice Manual. If the alternate resource is located at the same bus as the Local Capacity Area Resource Adequacy Resource for which it would substitute and has similar operational characteristics, the CAISO will approve the pre-qualification



request for use of the substitute resource in the subsequent Resource Adequacy Compliance Year. To use a pre-qualified resource as RA Substitute Capacity, the Scheduling Coordinator for the Local Capacity Area Resource Adequacy Resource must submit a substitution request prior to or in real time, and the resource must meet the requirements in Section 40.9.4.2.1(b).

- (2) **Non-Pre-Qualified Substitution.** A Scheduling Coordinator for a Local Capacity Area Resource Adequacy Resource that has a Forced Outage or de-rate may, prior to the close of the Day-Ahead Market for the next Trading Day, request to provide RA Substitute Capacity from a non-pre-qualified resource. The CAISO will grant the request if the alternate resource meets the requirements in Section 40.9.4.2.1(b) and (i) is located at the same bus as the Local Capacity Area Resource Adequacy Resource and meets the CAISO's operational needs, or (ii) if not located at the same bus, is located in the same Local Capacity Area, and meets the CAISO's effectiveness and operational needs, including size of resource, as determined by the CAISO in its reasonable discretion.
- (d) **Non-Local Capacity Area Resource Substitution.** A Scheduling Coordinator for a non-Local Capacity Area Resource Adequacy Resource that has a Forced Outage or de-rate that would count against its availability under Section 40.9.4.2, may, prior to the close of the Day-Ahead Market for the next Trading Day, request to provide RA Substitute Capacity from an alternate resource. A Scheduling Coordinator for an NRS-RA Resource that has a Forced Outage or de-rate that would count against its availability under Section 40.9.4.2, may, prior to the close of the Day-Ahead Market for the next Trading Day, request to provide RA Substitute Capacity from an alternate resource that is internal to the CAISO Balancing Area Authority (which does not include a Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area) to be used in the place of the original resource. The CAISO will grant the request if the alternative resource (i) has adequate deliverable capacity to provide the RA Substitute Capacity, (ii) meets the requirements in Section 40.9.4.2.1(b), and (iii) meets the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.

- (e) **RA Substitute Capacity From Multiple Resources.** The Scheduling Coordinator for Resource Adequacy Capacity on a Forced Outage or de-rate may request to substitute that capacity with RA Substitute Capacity from multiple alternate resources, including a resource already providing RA Substitute Capacity for one or more different Resource Adequacy Resources. The request must be submitted prior to the close of the Day-Ahead Market for the next Trading Day; except that, if each alternate resource is pre-qualified to provide RA Substitute Capacity for that Resource Adequacy Resource and if none of the alternate resources are already providing RA Substitute Capacity for another Resource Adequacy Resource, then the substitution request may be submitted in real time. If the request includes an alternate resource providing RA Substitute Capacity for another resource adequacy resource during the same period, that alternate resource must submit a request to provide RA Substitute Capacity in accordance with Section 40.9.4.2.1(f).
- (1) **Local Capacity Area Resources.** If the Scheduling Coordinator for an RA Local Capacity Area Resource on a Forced Outage or de-rate requests to substitute that capacity with RA Substitute Capacity from multiple resources, the CAISO will grant the request if the alternate resources are (i) located at the same bus as the Local Capacity Area Resource Adequacy Resource and pre-qualified under Section 40.9.4.2.1(c)(1), or (ii) if not located at the same bus, are located in the same Local Capacity Area and meet the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.
- (2) **Non-Local Capacity Area Resources.** If the Scheduling Coordinator for a non-Local Capacity Area Resource Adequacy Resource or an NRS-RA Resource on a Forced Outage or de-rate requests to substitute that capacity with RA Substitute Capacity from multiple resources, the CAISO will grant the request if the alternate resources are located within the CAISO Balancing Authority Area, meet the requirements in Section 40.9.4.2.1(b), and meet the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.
- (f) **Multiple Substitution By One Resource.** A resource may provide RA Substitute Capacity for no more than two Resource Adequacy Resources at the same time. The Scheduling Coordinator

for a resource already providing RA Substitute Capacity may request approval to provide RA Substitute Capacity for a second Resource Adequacy Resource on a Forced Outage or de-rate through the CAISO's manual process. The request must be submitted prior to the close of the Day-Ahead Market for the next Trading Day. The CAISO will approve the request if the alternate resources are located within the CAISO Balancing Authority Area, meet the requirements in Section 40.9.4.2.1(b), and meet the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.

(g) **Approval of Multiple Substitution By One Resource.**

Within five Business Days of receiving the substitution request through the manual process, the CAISO will respond to the request and include approved substitutions in CAISO systems. Approved substitutions shall be effective on the start date requested for the substitution.

(h) **Resource Adequacy Obligation.** To the extent a resource provides RA Substitute Capacity, the resource must meet and comply with all requirements in Section 40 applicable to RA Substitute Capacity for the duration of the substitution.

(i) **Treatment of Unbid Capacity.** If the Scheduling Coordinator for RA Substitute Capacity does not submit bids or Self-Schedules for all or a portion of that capacity in accordance with Section 40.6, the CAISO --

- (1) will treat the unbid capacity as unavailable for purposes of Section 40.9;
- (2) will reflect that unavailability in the availability calculation under Section 40.9.4.2 for the Resource Adequacy Resource for which the RA Substitute Capacity is substituting; and
- (3) will not submit Generated Bids for unbid RA Substitute Capacity; however, if a resource providing both RA Capacity and RA Substitute Capacity has a partial Forced Outage, the CAISO will submit Generated Bids for the resource up to the MW amount of its RA Capacity commitment or its MW amount of availability, whichever is lower.

(j) **Allocation of Unavailable RA Substitute Capacity.** In the event the resource providing RA Substitute Capacity has an Outage or de-rate during the substitution period, the CAISO shall allocate the MW reduction in available capacity on a pro-rata basis to each commitment of the

resource to provide RA Capacity, RA Replacement Capacity, RA Substitute Capacity, and CPM Capacity.

\* \* \*

#### **40.9.6.1 Determination of Resource Adequacy Capacity Subject to Non-Availability Charge**

The amount of Resource Adequacy Capacity of a Resource Adequacy Resource subject to the Non-Availability Charge will be determined as follows:

- (1) A Resource Adequacy Resource with actual availability calculated in accordance with Section 40.9.4.2 that is less than the Availability Standard minus the tolerance band of two and a half percent (2.5%) for a given month will have the Non-Availability Charge assessed to that portion of its non-exempt Resource Adequacy Capacity determined in accordance with the following formula:

$$P = RA*(S - .025) - X$$

Where:

- P = The RA Resource's RA Capacity subject to Non-Availability Charge
  - S = Monthly Availability Standard as a fraction, so that  $0 < S < 1.0$
  - RA = The RA Resource's RA Capacity (MW) {as designated in its Supply Plan, less any exempt capacity}
  - X = The {mean of the} RA Resource's {hourly available RC Capacity over all Availability Assessment Hours of the month (MW).}
- (2) No Non-Availability Charge will be applied when a Resource Adequacy Resource's actual availability, calculated in accordance with Section 40.9.4.2 for a given month, is equal to or greater than the Availability Standard less two and a half percent (2.5%).
  - (3) Any Forced Outage or temperature-related ambient de-rates of a resource providing RA Substitute Capacity for a Resource Adequacy Resource in accordance with Section 40.9.4.2.1 will be applied in calculating the availability of the Resource Adequacy Resource for which it is substituting.

\* \* \*

**Appendix A**  
**Master Definition Supplement**

**RA Substitute Capacity**

Capacity that substitutes for a Resource Adequacy Resource that is on a Forced Outage or de-rate as provided in Section 40.9.4.2.1.

**Attachment B – Marked**

**Resource Adequacy One-For-Many Manual Substitution Process**

**California Independent System Operator Corporation**

**January 30, 2014**

#### 40.9.4.2.1 RA Substitute Capacity

(a) Substitution Option. A Scheduling Coordinator may provide RA eSubstitute eCapacity that is not Resource Adequacy Capacity for its Resource Adequacy Capacity that is on a Forced Outage or de-rate in order to mitigate the impact of the Forced Outage or de-rate on its Resource Adequacy Resource's availability calculation. ~~Such substitution will be accepted by the CAISO in accordance with the following procedures.~~

#### (b) RA Substitute Capacity Availability.

- (1) RA Substitute Capacity must be operationally available to the CAISO:
- (2) Capacity on, or scheduled to be on, a Forced Outage, Approved Maintenance Outage, or de-rate, is not operationally available and shall not qualify to be RA Substitute Capacity for the duration of the period that it is unavailable.
- (3) RA Replacement Capacity, RMR Capacity, CPM Capacity, and capacity committed to be Resource Adequacy Capacity in a monthly Supply Plan shall not qualify to be RA Substitute Capacity for the duration of that commitment.
- (4) RA Substitute Capacity shall not qualify to be RA Replacement Capacity, RMR Capacity, CPM Capacity, or Resource Adequacy Capacity in a monthly Supply Plan, for the duration of the substitution.
- (5) If a resource provides RA Substitute Capacity for multiple Resource Adequacy Resources under Section 40.9.4.2.1(f), the same capacity committed as RA Substitute Capacity for one Resource Adequacy Resource shall not qualify as RA Substitute Capacity for a different Resource Adequacy Resource during the same substitution period.

#### (~~4c~~) For Local Capacity Area Resources Substitution.

- (1) Pre-Qualification. A Scheduling Coordinator ~~providing Resource Adequacy Capacity to satisfy for~~ a Local Capacity Area Resource Adequacy Resource requirement may pre-qualify alternate resources for substitution by ~~providing~~ submitting a prequalification request to the CAISO in accordance with the form and schedule specified in the Business Practice Manual. If the alternate resource is located at the same bus as the Local

Capacity Area Resource Adequacy Resource for which it would ~~replace~~substitute and has similar operational characteristics, the CAISO will approve the pre-qualification request ~~as a for use of the~~ substitute resource ~~for use~~ in the subsequent Resource Adequacy Compliance Year. To use a pre-qualified resource as RA Substitute Capacity, the Scheduling Coordinator for the Local Capacity Area Resource Adequacy Resource must submit a substitution request prior to or in real time, and the resource must meet the requirements in Section 40.9.4.2.1(b).

- (2) **Non-Pre-Qualified Substitution.** ~~Additionally, when~~ A Scheduling Coordinator for a Local Capacity Area Resource Adequacy Resource ~~subsequently that~~ has a Forced Outage or de-rate, ~~the Scheduling Coordinator~~ may, prior to the close of ~~IFM~~ the Day-Ahead Market for the next Trading Day, request to provide RA sSubstitute Capacity from a non-pre-qualified resource. The CAISO will grant the request if the alternate resource ~~is~~ meets the requirements in Section 40.9.4.2.1(b) and (i) is located at the same bus as the Local Capacity Area Resource Adequacy Resource and meets the CAISO's operational needs, or (ii) if not located at the same bus, is located in the same Local Capacity Area, and ~~which~~ meets the CAISO's effectiveness and operational needs, including size of resource, as determined by the CAISO in its reasonable discretion.

- (2d) **Non-Local Capacity Area Resource Substitution.** ~~(Resource Adequacy Resources designated to meet system requirements). If a Resource Adequacy Resource that is not also A Scheduling Coordinator for a non-Local Capacity Area Resource Adequacy Resource that has an Forced eOutage or de-rate that would count against its availability under Section 40.9.4.2, the Scheduling Coordinator for that resource may, prior to the close of the IFM Day-Ahead Market for the next Trading Day, request to provide RA sSubstitute Capacity from an alternate resource a non-Resource Adequacy Resource to be used in the place of the original resource. A Scheduling Coordinator for a non-Resource Specific System Resource an NRS-RA Resource that has an Forced eOutage or de-rate that would count against its availability under Section 40.9.4.2, may, prior to the close of the IFM Day-Ahead Market for the next Trading Day, request to provide RA sSubstitute Capacity a non-Resource Adequacy Resource from an alternate resource that is~~



internal to the CAISO Balancing Area Authority (which does not include a Pseudo-Tie of a Generating Unit to the CAISO Balancing Authority Area) to be used in the place of the original resource. The CAISO ~~shall approve~~will grant the request if the ~~substitute alternative~~ resource ~~provides the same MW quantity of~~(i) has adequate deliverable capacity ~~as the original Resource Adequacy Resource to~~ provide the RA Substitute Capacity, (ii) meets the requirements in Section 40.9.4.2.1(b), and (iii) meets the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.

(e) **RA Substitute Capacity From Multiple Resources.** The Scheduling Coordinator for Resource Adequacy Capacity on a Forced Outage or de-rate may request to substitute that capacity with RA Substitute Capacity from multiple alternate resources, including a resource already providing RA Substitute Capacity for one or more different Resource Adequacy Resources. The request must be submitted prior to the close of the Day-Ahead Market for the next Trading Day; except that, if each alternate resource is pre-qualified to provide RA Substitute Capacity for that Resource Adequacy Resource and if none of the alternate resources are already providing RA Substitute Capacity for another Resource Adequacy Resource, then the substitution request may be submitted in real time. If the request includes an alternate resource providing RA Substitute Capacity for another resource adequacy resource during the same period, that alternate resource must submit a request to provide RA Substitute Capacity in accordance with Section 40.9.4.2.1(f).

(1) **Local Capacity Area Resources.** If the Scheduling Coordinator for an RA Local Capacity Area Resource on a Forced Outage or de-rate requests to substitute that capacity with RA Substitute Capacity from multiple resources, the CAISO will grant the request if the alternate resources are (i) located at the same bus as the Local Capacity Area Resource Adequacy Resource and pre-qualified under Section 40.9.4.2.1(c)(1), or (ii) if not located at the same bus, are located in the same Local Capacity Area and meet the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.

(2) **Non-Local Capacity Area Resources.** If the Scheduling Coordinator for a non-Local Capacity Area Resource Adequacy Resource or an NRS-RA Resource on a Forced

Outage or de-rate requests to substitute that capacity with RA Substitute Capacity from multiple resources, the CAISO will grant the request if the alternate resources are located within the CAISO Balancing Authority Area, meet the requirements in Section 40.9.4.2.1(b), and meet the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.

(f) **Multiple Substitution By One Resource.** A resource may provide RA Substitute Capacity for no more than two Resource Adequacy Resources at the same time. The Scheduling Coordinator for a resource already providing RA Substitute Capacity may request approval to provide RA Substitute Capacity for a second Resource Adequacy Resource on a Forced Outage or de-rate through the CAISO's manual process. The request must be submitted prior to the close of the Day-Ahead Market for the next Trading Day. The CAISO will approve the request if the alternate resources are located within the CAISO Balancing Authority Area, meet the requirements in Section 40.9.4.2.1(b), and meet the CAISO's effectiveness and operational needs, as determined by the CAISO in its reasonable discretion.

(g) **Approval of Multiple Substitution By One Resource.**

Within five Business Days of receiving the substitution request through the manual process, the CAISO will respond to the request and include approved substitutions in CAISO systems. Approved substitutions shall be effective on the start date requested for the substitution.

(h) **Resource Adequacy Obligation.** To the extent a resource provides RA Substitute Capacity, the resource must meet and comply with all requirements in Section 40 applicable to RA Substitute Capacity for the duration of the substitution.

(i) **Treatment of Unbid Capacity.** If the Scheduling Coordinator for RA Substitute Capacity does not submit bids or Self-Schedules for all or a portion of that capacity in accordance with Section 40.6, the CAISO --

(1) will treat the unbid capacity as unavailable for purposes of Section 40.9;

- (2) will reflect that unavailability in the availability calculation under Section 40.9.4.2 for the Resource Adequacy Resource for which the RA Substitute Capacity is substituting; and
- (3) will not submit Generated Bids for unbid RA Substitute Capacity; however, if a resource providing both RA Capacity and RA Substitute Capacity has a partial Forced Outage, the CAISO will submit Generated Bids for the resource up to the MW amount of its RA Capacity commitment or its MW amount of availability, whichever is lower.

(i) **Allocation of Unavailable RA Substitute Capacity.** In the event the resource providing RA Substitute Capacity has an Outage or de-rate during the substitution period, the CAISO shall allocate the MW reduction in available capacity on a pro-rata basis to each commitment of the resource to provide RA Capacity, RA Replacement Capacity, RA Substitute Capacity, and CPM Capacity.

\* \* \*

#### **40.9.6.1 Determination of Resource Adequacy Capacity Subject to Non-Availability Charge**

The amount of Resource Adequacy Capacity of a Resource Adequacy Resource subject to the Non-Availability Charge will be determined as follows:

- (1) A Resource Adequacy Resource with actual availability calculated in accordance with Section 40.9.4.2 that is less than the Availability Standard minus the tolerance band of two and a half percent (2.5%) for a given month will have the Non-Availability Charge assessed to that portion of its non-exempt Resource Adequacy Capacity determined in accordance with the following formula:

$$P = RA*(S - .025) - X$$

Where:

P = The RA Resource's RA Capacity subject to Non-Availability Charge

S = Monthly Availability Standard as a fraction, so that  $0 < S < 1.0$

RA = The RA Resource's RA Capacity (MW) {as designated in its Supply Plan, less any exempt capacity}

X = The {mean of the} RA Resource's {hourly available RC Capacity over all Availability Assessment Hours of the month (MW).}

- (2) No Non-Availability Charge will be applied when a Resource Adequacy Resource's actual availability, calculated in accordance with Section 40.9.4.2 for a given month, is equal to or greater than the Availability Standard less two and a half percent (2.5%).
- (3) Any Forced Outage or temperature-related ambient de-rates of a resource ~~that the CAISO has accepted as a substitute~~ providing RA Substitute Capacity for a Resource Adequacy Resource in accordance with Section 40.9.4.2.1 will be applied in calculating the availability of the Resource Adequacy Resource for which it is substituting.

\* \* \*

#### **Appendix A Master Definition Supplement**

##### **RA Substitute Capacity**

Capacity that substitutes for a Resource Adequacy Resource that is on a Forced Outage or de-rate as provided in Section 40.9.4.2.1.