

**BEFORE THE  
PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Consider	)	
Annual Revisions to Local Procurement	)	R.08-01-025
Obligations and Refinements to the	)	
Resource Adequacy Program	)	
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**INITIAL COMMENTS OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION  
ON PHASE 1 ISSUES FILED OUT OF TIME**

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Pursuant to Rule 11.6 of the California Public Utilities Commission’s (“Commission”) Rules of Practice and Procedure, and the e-mail ruling of Administrative Law Judge Wetzell, dated May 14, 2008 granting permission to file out-of-time, the California Independent System Operator (“CAISO”) submits these initial comments on issues and proposals identified during Phase 1 of this proceeding.<sup>1</sup> The CAISO appreciates and commends the Commission staff for their efforts in developing a valuable resource adequacy (“RA”) program and their commitment in pursuing process improvements. The CAISO provides comments on the following issues and proposals:

- Calculation of Qualifying Capacity (“QC”) for intermittent (wind and solar) resources;
- Application of Commercial Operation Date to determine eligibility of new resources

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<sup>1</sup> The only changes to this version of the CAISO comments from the version served on the service list in this proceeding on May 12, 2008, are reflected in this opening paragraph.

- Mechanisms to address monthly load migration for local capacity procurement purposes;
- Application of scheduled outage rules to resources whose QC relies on historic production values; and
- Use of thermal resource counting rules for dispatchable Qualifying Facilities (“QFs”).

### **I. Calculation of QC for Intermittent Resources**

As noted by Commission staff in the 2007 RA Report, the QC counting conventions are “intended to reflect the expected capacity value that will be available to the CAISO during periods of system peak demand.”<sup>2</sup> Consistent with this concept, the CAISO believes there are two essential principles that should generally guide the selection of any revisions to the Commission’s QC methodology for intermittent<sup>3</sup> resources:

- The QCs determined for RA resources should provide the CAISO with a high level of assurance that enough RA capacity is available to meet peak demand, which is consistent with the primary objective of the RA program. Thus, the methodology for assessing the QC of wind and solar resources should account for the performance of such resources to serve load during the appropriate peak periods.
- The QC methodology must be scalable to accommodate the expected increase in capacity from wind resources. In other words, the methodology must be capable of adjustment to account for the wide

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<sup>2</sup> As noted on page 17, section 4.1 of the 2007 RA Report

<sup>3</sup> Although the CAISO has assessed data relating only to wind resources for purposes of this proposal, the CAISO’s believes this methodology also applies to solar resources.

variation in output and produce greater confidence in predicting actual production during peak hours as the quantity of installed capacity from wind resources becomes a more significant proportion of California's overall generating capacity.

In its 2007 RA Report, the Energy Division provided data demonstrating that the current methodology for determining wind resources' QC (three year historical average of hourly production during Standard Offer 1 ("SO1") peak hours) overstates the available capacity during peak demand periods. . Recognizing that an improvement in the current counting rules is needed, the CAISO has been working with stakeholders to finalize a proposal for Commission staff to assess.<sup>4</sup> Based on the key principles noted above, the CAISO has developed a modified proposal. As California increasingly relies on wind resources to meet energy production needs, it becomes even more critical that the QC counting rules used for these intermittent resources accurately reflect the available capacity during the peak load hours. The CAISO believes it is essential that the Commission implement a new methodology to determine the QC of intermittent resources. Specifically, the current methodology should be changed to better reflect the ability of wind and solar resources to support reliable operation of the grid during peak load.

Provided below is the CAISO's proposal for changing the QC counting rules for intermittent resources to meet the goal of reliable grid operations during peak load periods.

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<sup>4</sup> CAISO had originally proposed an approach that would continue to use a three year average of output but focused on the peak hours of the peak days during the month. Upon further review and discussion with interested parties, the CAISO has discarded method for the approach described here-in.

➤ **Proposed Methodology**

This CAISO proposal focuses on providing a high level of confidence that the RA resources procured through the RA program are, in fact, available to provide energy during the peak demand period. In order to achieve this high level of confidence, the proposal uses an exceedance approach to calculate the QC value and thus set a level of confidence that the expected output will be achieved. The proposed methodology takes the historical output for each intermittent resource from the top six system coincident peak load days in a month to reflect the top 20% of days, and a specified group of five hours within each of these six system coincident peak load days in that month. The five load hours are established such that the peak load hour always falls within that five-hour range, regardless of season, and the specific hours depend upon the month for which the QC is being calculated and will be predefined follows:

1. January to March, November and December HE17-HE21 (4:00 p.m. to 9:00 p.m.)
2. April to October HE14-HE18 (1:00 p.m. to 6:00 p.m.)

These hours center on when the CAISO has typically experienced the system coincident peak demand during each of the months. Similar to today's counting methodology, the CAISO's proposal uses a three-year average of this data to create each resource's monthly QC value. The proposal does not, however, involve a change in the process in establishing QC (i.e., QF would continue to have their QC calculated by the CEC, and non-QF resource owners would continue to be responsible for their own RA calculations).

The CAISO provided sample results using this approach to interested parties. However, the CAISO has also requested that the CEC perform its own calculation under

this methodology using the data the CEC utilized when performing the determination of the official QC values. To assist all parties in making comments on the various proposals, the CAISO has requested, and greatly appreciates, the CEC also running the QC calculations using other parties' proposals and the same data set. The CAISO recognizes the effort this imposes on CEC staff as well as the possibility that waiting for this data could delay the final reply comments. Nevertheless, the CAISO believes that having these results available prior to submitting final comments would provide the Commission and parties tremendous benefit. The CAISO, therefore, respectfully requests that the Presiding Administrative Law Judge consider extending the date for which reply comments are due so that the results of the CEC analysis can be assessed.

The CAISO proposal requires determining an appropriate confidence or exceedance level. The choice of confidence level is somewhat subjective. However, the CAISO believes the selection of the confidence level should be consistent with the RA program's goal of ensuring resources will be available when needed during peak demand. A confidence level as low as 50 or 60 percent does not conform to this perspective by building in the notion that the expected output will be wrong by some magnitude in 50% of the operational hours. Therefore, the CAISO proposes that a confidence or exceedance level of 70 percent or greater be established for this methodology.

For new intermittent resources, without three years of historical generation output data, the QC percentages would be determined on a "wind zone" basis until it has sufficient historic data. Thus, until the particular resource has sufficient historic production data, the amount of capacity that a new wind resource can be counted for RA

purposes would be determined for each of the following six<sup>5</sup> major wind generation geographic areas within California:

- San Geronio
- Tehachapi
- Altamont
- Solano, and
- Pacheco Pass
- San Diego

A percentage value would be determined for each of the six wind geographic areas within California that would be applied to all new Resource IDs within each area to determine the MW amount that each new Resource ID will be allowed to count toward in RAR showings. The value would be calculated for each month of the year.

➤ **Steps and Data Needed to Implement Proposed Methodology**

The following load and generation data would be used to perform the analysis:

1. The previous three years of wind generation energy production data for each wind resource and, if a new wind resource, for each of the six wind geographic areas within California.
2. Integrated hourly load values across the CAISO Control Area for the entire three year historical period to establish the peak load days.
3. From each of the 12 months of each year, include the individual generation output (and wind areas) for the five hours of each day, depending upon which month's data was being collected, as noted below.

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<sup>5</sup> The wind generation data for the San Diego area was not readily available during the drafting of this proposal, but the CAISO anticipates that the CEC data would include this region.

- Jan-Mar, Nov and Dec HE17-HE21 (4:00 p.m.-9:00 p.m.)
- Apr – Oct HE14-HE18 (1:00 p.m.-6:00 p.m.)

Using the data above, the following would be determined for each resource and the six wind geographic areas within California:

1. The six peak system load days for each month for the three years of the historical period. As this methodology is used each year there will only be a need to add one year's worth of data as the older year drops off.
2. The actual wind generation energy production by resource or wind geographic area, as applicable, for each of the six peak load days in each month using the actual energy production during the respective five hours of each day, depending upon the month.
3. The data is then grouped by specific resource and aggregated by wind area and the appropriate confidence level is determined based on this data. For individual wind resources, with three or more years of historic generation output available, the resulting MW level at the chosen exceedance level would be the QC value used for the next RA compliance year.
4. For new resources, without the necessary three years of historical generation output data, a percentage would be determined based on actual energy produced from the wind area in which the resource is located compared to the installed nameplate capacity rating on the same wind geographic areas.
5. QC values are calculated by the CEC and published on the CAISO website.

Of the options proposed, the CAISO believes that the best approach is one that provides a high degree of confidence that RA resources can be relied upon during peak load hours. Several other approaches have been put forth for review. The SCE/SDG&E proposal is very similar to the CAISO exceedance approach, but the CAISO believes that it moves away from one key principle, which is to serve load during the peak days and peak hours. Another option originally submitted by the CAISO was an average approach. However, after reviewing the results of that previous proposal, it was recognized that the average generation output, even in the peak hours, may introduce a bias into the results that affects operational reliability. In other words, the high variability of generation output can produce average values that are considerably higher than actual production. To the extent that output is relatively even over the peak hours, such a measure would converge to the average, but if it is not, such a measure, would not provide a sufficient degree of correction in the QC that supports system reliability.<sup>6</sup> For this reason, the CAISO has modified its proposal to include a confidence or exceedance level. There also has been some discussion among stakeholders about an ELCC approach, but no party has submitted a specific proposal, nor has any party described a process, timeline or entity that would do a study such that it could be integrated into the RA program. Finally, the Commission staff report had several proposals that addressed

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<sup>6</sup> For example: wind resources in the San Geronio region reflected outputs over a three year period from 2005 to 2007 of 4.9%, 2.4% and 40.4% of nameplate capacity, respectively. The three year average would result in a QC value of 15.9%. However, this qualifying capacity would then over forecast the actual output by more than 300% for two of three years (15.9% compared to the actual output of 4.9% and 2.4%) and only under forecast in one of three years.

this issue of correcting the counting methodology for intermittent resources. Of these proposals, the option “5c” had some similarities to the CAISO’s current proposal

## **II. Commercial Operation Date Should be the Focus of New Resource Counting Rules**

The counting rules for new resources can, and should, be simplified. Decision 05-10-042 adopted a joint CAISO-CEC proposal for determining when a new resource could be counted both for purposes of the year-ahead and month-ahead RA showings. That proposal relied on the terms “operational status” and “commercial operation.” As TURN pointed out in its April 15, 2008 Post-Workshop Proposal, these terms have become confused or misused. The CAISO proposes to end this confusion by focusing the counting rules solely on the Commercial Operation Date of the new resource. In particular, the CAISO proposes that a new resource can be counted for an operational month so long as it has achieved Commercial Operation on or before the date the monthly RA plan for that month is submitted.

Focusing on the resource’s Commercial Operation Date is consistent with the underlying goal of the original CAISO-CEC proposal, which was to ensure that only real resources were counted in the monthly or operational RA plans. Commercial Operation under the CAISO Tariff is “[t]he status of a Generating Unit at a Generating Facility that has commenced generating electricity for sale, excluding electricity generated during a Trial Operation.” Trial Operation is essentially facility testing. The original CAISO-CEC proposal used Commercial Operation in a similar manner in that the Generating Unit had “completed construction, interconnected to the applicable distribution or transmission system, completed all start-up, commissioning and performance testing, received final approval from the applicable distribution or transmission provider, and

commenced scheduling or bidding for the sale of electricity in the forward market.” In contrast, and as TURN has pointed out, Operational Status reflected the Generating Unit’s status during facility testing or prior to Commercial Operation.

So long as a Generating Unit has satisfied Commercial Operation as of the date of the submission of the RA plan, the new resource may count for purpose of that particular monthly RA plan. There are two possible scenarios. First, all steps for Commercial Operation have, in fact, been complete and the resource can fulfill its RA obligations. Second, the resource’s claim of Commercial Operation is inaccurate. The CAISO’s validation of the RA plan will reveal this shortcoming. At this point, the CAISO begins notifying Scheduling Coordinators of the deficiency and allows such Scheduling Coordinators an opportunity to cure such deficiency. Where the Commercial Operation Date does not occur prior to the end of the cure period, the CAISO can engage in backstop procurement as necessary. Thus, the CAISO is able to fully operationalize the resource if the Commercial Operation Date occurs on or prior to the submission of the RA Plan or, alternatively, can take action to ensure reliability. To avoid the latter circumstance, it is the responsibility of the contracting parties to properly communicate the status of the new resource.

### **III. Load Migration Proposals Should Not Jeopardize Reliability**

As a general matter of program design, the CAISO supports mechanisms that account for load migration both at the system and local level. It is, in part, to accommodate load migration that the CAISO has actively participated with the Commission and market participants in assessing the viability of various options for establishing a more transparent and liquid market for capacity. The CAISO, however,

does not currently take a position on the proposals advanced in this proceeding, but reserves the right to comment on reply. Rather, at this time and until an effective capacity market becomes available, the CAISO generally advises that any proposal to address load migration should (1) not degrade reliability by reducing the amount or effectiveness of capacity made available to the CAISO by Commission-jurisdictional LSEs, (2) not result in an undue administrative burden that prevents efficient implementation, and (3) not result in undue cost shifting related to any backstop procurement from those LSEs taking advantage of the load migration mechanism to other LSEs.

#### **IV. PG&E's Proposal to Eliminate Double Counting of Scheduled Outages Should be Rejected**

PG&E complains that scheduled outages are counted twice in assessing the RA value of those resources that utilize historic performance as the basis for setting their QC. PG&E is accurate that scheduled outages affect QC of such resources initially in the calculation of energy production and subsequently during the period of the actual scheduled outage. PG&E's proposed solution to eliminate such double counting is to exempt RA resources that rely on historic output for determining QC from the scheduled outage counting protocols adopted in Decision (D.) 06-07-031.<sup>7</sup> The Commission should reject PG&E's proposal.

Under PG&E's approach, resources known in advance to be unavailable to meet system needs would nevertheless count in full toward an LSEs RA obligation. The Commission intentionally applied the scheduled outage counting protocols of "all QC" to

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<sup>7</sup> In D.06-07-031, the Commission accepted rules that limit an LSE's ability to count a resource as follows: Summer months – scheduled outage cannot exceed 25% of the days of the month. Non-summer months – scheduled outage over 2 weeks eliminates the resource's eligibility and a scheduled outage between 1-2 weeks results in formula reduction of QC.

avoid such an irrational result and, instead, achieve a more balanced approach. The existing approach better conforms to the basic reliability underpinnings of resource adequacy. Accordingly, the Commission should not abandon its prior rulings in D.06-07-031.

The Commission should look to resolve the double counting by adjusting the calculation of historic output. This could be done in a number of ways by using historic data to assume an output for the period during which the resource is deemed to be on scheduled outage. In this way, the QC will undergo an incremental change to address the double counting of scheduled outages, but not result in reliance on a resource known to be unavailable to meet reliability needs.

**V. Dispatchable Qualifying Facilities Under Unit-Specific Contracts Should be Counted Similarly to Other Thermal Units**

SCE requests confirmation that the current counting rules allow dispatchable QFs to calculate QC in accordance with “unit-specific” rules, rather than the historic production counting rules applicable to standard, non-dispatchable QFs. Alternatively, if the current counting rules do not allow for such an interpretation, SCE advocates that the QC of “[d]ispatchable cogen QF resources shall have their [QC] calculated in the same manner as other thermal (non-QF) resources.”

The CAISO supports SCE’s request for clarification. The CAISO agrees that the historic output approach currently used for QC determination of QFs under standard QF contracts is incompatible with dispatchable QF units whose energy production largely depends on market conditions. However, in order for a dispatchable QF to apply the general thermal resource counting rules, the QF must be subject to the same availability standards applicable to other dispatchable thermal resources. In this regard, the CAISO

objects to any intimation that the “unit-specific contract rules” may somehow determine or restrict the availability obligations otherwise applicable to dispatchable thermal resources. Dispatchable RA resources must be made available to the CAISO up to their contracted for Resource Adequacy Capacity, limited solely by the resource’s physical operating characteristics. Simply put, the unit-specific contract cannot satisfy RA eligibility requirements if it imposes temporal restrictions on the obligations of the dispatchable QFs to make themselves available to the CAISO.

## **VI. Conclusion**

For the foregoing reasons, the CAISO respectfully requests that the Presiding Administrative Law Judge prepare a proposed decision for Commission consideration that incorporates the positions articulated herein and, in particular, adopts the CAISO’s proposal on modifying the counting protocols for intermittent resources. The CAISO proposal determines QC in a manner consistent with the RA program’s primary objective of ensuring resources are available at times of peak demand when the CAISO needs the capacity the most.

Respectfully submitted,

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Date: May 14, 2008

## CERTIFICATE OF SERVICE

I hereby certify that I have served, by electronic and United States mail, the foregoing Initial Comments of the California Independent System Operator Corporation on Phase 1 Issues Filed Out of Time to each party in Docket No. R.08-01-025.

Executed on May 14, 2008, at Folsom, California.

*/s/Anna M. Pascuzzo*  
Anna M. Pascuzzo  
An Employee of the California  
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