

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

Order Instituting Rulemaking to Consider	)	
Refinements to and Further Development of the	)	R.05-12-013
Commission’s Resource Adequacy	)	
Requirements Program	)	
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**POST-WORKSHOP COMMENTS OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION  
ON RESOURCE ADEQUACY PHASE 2, TRACK 1 PROPOSALS**

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In accordance with the procedural schedule set forth in the Assigned Commissioner’s Ruling and Scoping Memo for Phase 2, dated December 22, 2006 (“ACR”), the California Independent System Operator Corporation (“CAISO”), respectfully submits its post-workshop comments on issues identified as “Track 1” in the above-captioned proceeding.

**I. Introduction**

The CAISO wishes to commend the Commission staff for again organizing and conducting a constructive set of workshops that greatly assisted parties in focusing the Track 1 issues and developing proposals. The CAISO does not address all of the myriad topics identified in the ACR<sup>1</sup> or each party proposal, but rather uses this opportunity to:

- Support the proposal jointly developed by the CAISO, SCE, PG&E, SDG&E, and TURN (“Joint Parties”) to address the reliability concerns related to the limited transfer capability on Path 26;
- Support the transition to the use of a probabilistic approach for determining target procurement obligations;

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<sup>1</sup> The CAISO addressed certain issues identified in the ACR in its January 26, 2007 proposals, including modifications to the local capacity requirements study process, aggregation of local areas, extension of the waiver policy for generation deficient local areas, and LSE waiver of local procurement obligations. The CAISO’s position on these issues remains consistent with that set forth in its January 26, 2007 filing.

- Oppose the adoption of a “seasonal” local capacity requirement (or “LCR”);
- Request a supplemental review process similar to that adopted in Decision 06-06-064 to permit Commission consideration of any reduction in needed capacity based on potential operating solutions not currently incorporated into the CAISO’s Updated 2008 LCR Study, dated April 3, 2007;
- Support for “Proposal 8,” as set forth in the Phase Two/Track One Workshop Report, dated March 30, 2007 (“Workshop Report”), regarding coordination between the resource adequacy program and CAISO “backstop” procurement; and
- Support for continuing to examine the “Proponents”<sup>2</sup> proposal for a standard resource adequacy contract and associated generator obligations.

The CAISO reserves its right to reply to other Track 1 issues or proposals raised by other parties in their opening post-workshop comments.

## **II. The Commission Should Adopt the Zonal Proposal Developed by the Joint Parties**

The CAISO requested the Commission consider, as part of Track 1, a zonal resource adequacy requirement to avert the threat to reliability posed by potential LSE over-reliance on the limited transfer capability of Path 26.<sup>3</sup> Similar in concept to local load pockets, the constraint on Path 26 requires that a minimum level of generation exist on either side of the constraint to meet demand and address other operation requirements. On March 22, 2007, the CAISO joined with SCE, PG&E, SDG&E, and TURN to sponsor a proposal that accounts for the constraint on Path 26 by allocating Path 26 transfer capability in a manner similar to import capability on interties.

The Division of Ratepayer Advocates (“DRA”) also submitted a zonal capacity resource adequacy proposal as an alternative to the Joint Parties’ Path 26 allocation

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<sup>2</sup> Proponents are Calpine Corporation, Coral Power, Constellation Energy Commodities Group, Constellation Newenergy, J. Aron & Company, Pacific Gas and Electric Company, Strategic Energy, Alliance for Retail Energy Markets, Western Power Trading Forum, and Mirant.

<sup>3</sup> The CAISO notes that while some parties initially questioned the “need” for zonal capacity requirements, all parties now seem to acknowledge that a tangible reliability concern exists and that the Path 26 constraint must be addressed in some manner. With respect to this underlying reliability concern, the CAISO asserts that its January 26, 2007 comments provide sufficient support on the record for the need to adopt the proposal of the Joint Parties.

proposal. DRA's approach would "set minimum percentages of System RA that must be provided by RA capacity that is located in either SP26 or NP26. These minimum percentages will depend on each zone's load, demand response capacity, imports, Path 26 transfer capability and DWR LD contracts."<sup>4</sup> Thus, contrary to the Joint Parties' proposal, each LSE under the DRA proposal would have a responsibility to procure the resulting percentage as system resource adequacy capacity in their respective zone(s), i.e., an explicit zonal procurement obligation.

The CAISO believes DRA's approach is flawed and inferior to the Joint Parties' proposal for several reasons, including: (1) the DRA proposal fails to capture the efficiencies associated with counter-flows on Path 26 that should reduce the cost of total resource adequacy procurement, (2) operates to socialize certain LSE specific assets across all LSEs in a zone, and (3) adds potential administrative complexity. A more detailed discussion of these flaws is set forth in the post-workshop comments submitted by the Joint Parties.

### **III. Local Resource Adequacy Issues**

#### **A. The CAISO Supports Transitioning to a Probabilistic Approach to Determine Resource Adequacy Procurement Targets**

In Decision 06-06-064, the Commission signaled its desire that the CAISO develop a probabilistic approach toward determining local capacity requirements. The CAISO similarly supports transitioning toward the use of a Loss of Load Probability ("LOLP") analysis to guide and inform resource adequacy procurement targets for local, as well as broader, capacity needs. LOLP provides decision-makers with a projected value of how much time the load on a power system is expected to exceed the ability of generating resources and the delivery system to serve that load.<sup>5</sup> As the name implies, LOLP utilizes probabilistic techniques and therefore is an improvement over a static

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<sup>4</sup> See *Zonal Capacity Resource Adequacy Proposal Submitted by the Division of Ratepayer Advocates (Phase 2 of Track 1)*, March 22, 2006, p. 1.

<sup>5</sup> It should be emphasized that the use of an LOLP does not obviate or supersede the requirement to attain the transmission planning standards currently underlying the LCR criteria. The transmission system must continue to comply with specific performance standards currently established by NERC and the WECC. The configuration of the grid, as planned to satisfy performance criteria, constitutes an input or assumption to the overall LOLP analysis.

reserve margin because the LOLP takes into account system characteristics such as generator reliability, load volatility, correlation of summer peak loads, and unit deratings. Such an analysis may reveal that one location could function acceptably with a 20% reserve margin, while another requires 25% to maintain the same LOLP. Thus, the fundamental advantage of LOLP to decision-makers is that it provides a direct relationship between a specific level of desired reliability and the capacity necessary within particular locations or across the system to attain that reliability objective. In so doing, LOLP facilitates an explicit assessment of the relative costs, benefits, and risks of achieving different reliability targets.

Notwithstanding the CAISO's support for applying LOLP to enhance the evaluation of capacity requirements within the ISO Control Area, as noted at the March 8 workshop, the CAISO's ability to presently commit to a specific timetable and clearly define the nature of its leadership role is constrained by a need to evaluate the broader function LOLP will play within the CAISO's evolving and more proactive grid planning process. Through this evaluation process, the CAISO will gain greater visibility of the capital and staff resources needed to develop and apply the LOLP analysis. However, as a general matter, the CAISO reaffirms its prior estimates that any effective conversion to LOLP will likely take approximately two years to complete following initiation of the development process.

The substantial time required to integrate LOLP into the resource adequacy program reflects the complexity of the analysis and the need to complete several interdependent preparatory stages prior to implementation. The CAISO and its stakeholders must, for example, seek consensus on the underlying LOLP methodology. This may include evaluating questions such as whether the analysis should follow the PJM approach of analyzing load pockets individually or should reflect the approach adopted by the New York ISO and ISO New England, which assesses load pockets collectively. Next, once a methodology is chosen, a software package must be selected that best fits the preferred methodology. In combination, the methodology and software will determine the necessary data requirements; however, the methodology and software should be selected also upon consideration of the availability and accessibility of

necessary data. Further, even under a best-case scenario, gathering the data will likely constitute an extensive process.

Following identification of a preferred underlying methodology, software package and associated data needs, stakeholder input will once again be vital in the refinement of the methodology through identification of input assumptions and the target level of reliability. Study assumptions must address the load forecast criteria, supply criteria, such as wet vs. dry year or import capability, and appropriate maintenance and forced outages rates.

Finally, as Commission staff noted in the Workshop Report, it is expected, and appropriate, that the first run results of the LOLP analysis be closely scrutinized and validated. The CAISO, policy-makers, and stakeholders should test the robustness of the model through evaluation of various what-if scenarios and sensitivities to ensure the methodology used is feasible and the results realistic. Again, stakeholder input and review will be necessary at this stage and important to the derivation and publication of final results. As noted, based on this general scenario, the CAISO anticipates that the LOLP implementation process, beginning with stakeholder process to determine methodology and after the CAISO's completes its own preparatory resource assessments, will take approximately two years to implement. Unfortunately, an estimate is not currently available as to when the CAISO can complete its preparation given competing priorities, but the CAISO nevertheless is committed to the development and integration of LOLP into its grid planning process for potential application in the Commission's resource adequacy program.

**B. The CAISO Opposes the Adoption of Seasonal LCR Obligations As Part of Track 1**

The CAISO urges the Commission to reject as part of Track 1 the request to bifurcate the annual local capacity requirement into an on-peak and off-peak season obligation. The CAISO's recommendation is based on the absence of any evidence that the purported benefits of the proposal outweigh the significant technical, operational, and programmatic obstacles identified by the CAISO at the March 8 workshop.

The justification offered for adjusting LCR obligations on a seasonal basis is that it would result in an overall reduction in the cost of resource adequacy compliance. Yet,

as the Workshop Report acknowledges (pg. 7), this justification is mere conjecture at this point since no party has offered any analysis or data demonstrating the financial consequences of the requested change. In this regard, the fundamental objective of the Commission's resource adequacy program is to ensure sufficient capacity is available when and where needed to maintain reliability. Local capacity is particularly critical to this goal and a basic precondition to local (or any other) capacity's continued availability when needed is the ability of the resource to recover sufficient compensation to cover its fixed costs through all available market opportunities. Thus, assuming a resource's contribution to fixed costs from the Energy and/or Ancillary Services markets is unaffected by whether it is a resource adequacy resource or not, the resource will need to recover the needed balance through capacity payments. Accordingly, it is not presently clear that moving to a seasonal LCR obligation will result in overall savings or merely an increase in capacity costs on-peak to compensate for the absence of revenue during the off-peak season. Absent proof of substantial cost savings, the CAISO believes it is preferable to maximize the scope of the offer obligation to the CAISO for local capacity by retaining the annual LCR requirement.

Countering the unproven benefits of a seasonal LCR obligation is the tangible technical, operation, and practical problems associated with abandoning the annual requirement for 2008 procurement purposes. Unlike the annual peak LCR Study, an off-peak study must account for transmission facility outages due to required maintenance prior to assessing the impact of contingencies. The CAISO will receive a proposed schedule for transmission outages in 2008 by October 15, 2007 or approximately the same time LSEs must demonstrate compliance with resource adequacy procurement requirements. (ISO Tariff § 9.3.6.) However, even if the timing of receipt of outage information could somehow be readily coordinated with resource adequacy deadlines, which it cannot, it is equally important that transmission owners currently have the discretion to schedule maintenance or change approved maintenance three (3) days in advance of the planned outage subject to CAISO approval. (*Id.*) If the LCR Study relies on the advanced maintenance schedule, the CAISO will likely be required to substantially curtail the flexibility presently afforded transmission owners. Alternatively, the CAISO

could permit the transmission outage modification with the effect of necessarily diminishing the accuracy of the assumptions underlying the LCR Study.

Moreover, as the CAISO emphasized at the March 8 workshop, transmission outages for maintenance will decrease the transfer capacity into the load pocket and offset, in part, the effect of lower loads in calculating the capacity necessary to maintain reliability in the load pocket. Further offsetting the perceived benefits, and also highlighting the impracticality of a seasonable approach, is the need to reassess generator deliverability under off-peak conditions. The complexity of this task is significant and to the extent generators are less deliverable in off-peak periods, the perceived benefits of lower load levels will again be eroded to some degree.

The added complexity of the off-peak LCR study increases the likelihood that the aggregate LSE portfolio of resource adequacy capacity available in the off-peak season will not be wholly effective to address reliability needs. Under those circumstances, the CAISO will be compelled to obtain resources either through the MRTU's Residual Unit Commitment or pursuant to some, as of yet, not fully defined replacement procurement mechanism to the current Reliability Capacity Services Tariff ("RCST"). Such potential procurement is another unknown, and potentially significant, offset to any cost advantages perceived from the off-season LCR obligation. Accordingly, the CAISO submits that the record does not support presently grafting this modification on to the Commission's resource adequacy program.

**C. Proposal for a Monthly True-Up Mechanism for Local Capacity Must Not Impact Aggregate Capacity Available to the CAISO**

The CAISO, as a general proposition, supports any refinement to the resource adequacy program intended to better align LSE obligations and costs that shift following load migration or to increase the liquidity of the market for local capacity. In this regard, the CAISO appreciates the efforts of Sempra Energy Solutions ("SES"). However, prior to adopting the SES proposal, the CAISO believes the Commission should carefully weigh the efficacy of its intended purpose against the added complexity to the resource adequacy program and also ensure that there are no unintended negative effects on reliability.

Based on the CAISO's understanding of the SES proposal, an LSE would continue to be obligated to procure its proportional responsibility for local capacity based on its CEC year-ahead peak forecast. However, unlike the current resource adequacy program, the LSE's obligation could vary depending on its monthly true-up forecast. Where the monthly true-up forecast exceeds the year-ahead peak month load forecast (not the year-ahead peak for true-up month), the LSE would be required to procure additional local capacity "based on the ratio of the year-ahead Local RA capacity requirement to the year-ahead peak month load forecast (the 'baseline ratio')." In contrast, where the monthly true-up forecast is less than the year-ahead forecast for that particular month, the LSE may "adjust" its local capacity obligation downward in the amount of the product of the baseline ratio and the lost load.

The CAISO offers several observations on the SES proposal. First, there is a lack of symmetry between an LSE's ability to sell surplus local capacity and another LSE's obligation to purchase local capacity. An LSE may sell whenever its actual load falls below its year-head forecast for that month, but no other LSE would be required to procure additional capacity unless its increased load caused its yearly-peak demand to be exceeded. Thus, it would seem that in most months, absent a significant change in LSEs' respective loads, there will be sellers, but few, if any, buyers.

Second, SES offers that the proposal will not degrade reliability. Implicit in this statement is that the aggregate local capacity will continue to be reflected collectively on LSE Resource Adequacy Plans. While this may naturally follow from pragmatic business considerations (i.e., if the LSE cannot sell the capacity, why not show it), it should be explicit by specifying that any LSE with surplus, but unsold, local capacity must continue to show the local capacity and any buyer of such capacity must also be an LSE that will show the capacity on its Resource Adequacy Plan.

Third, while the CAISO agrees basic cost-causation principles dictate that LSEs must be primarily responsible for procuring capacity to serve their customers, it is not presently clear that imposing on an LSE the obligation to procure additional local capacity in an amount based its baseline ratio is efficient. In other words, the need for local capacity may not be linear with increases in load. This concern is limited to SES' suggestion that the proposal applies not only to load migration, but also to load

fluctuations. Thus, if the proposal is intended to address increases in load, rather than simply movement of load, then it is possible that only additional system, rather than local, capacity is needed to meet the increased demand.

**D. The Commission Should Again Authorize a Supplemental Review Process to Allow Further Consideration of Transmission/Operational Solutions that Will Reduce the 2008 LCR**

In Decision 06-06-064, the Commission directed the Energy Division to provide for a supplemental review process to permit further CAISO evaluation of potential operating solutions identified after completion of the 2007 LCR Study that could reduce the LCR. To the extent the CAISO determined that reductions in the LCR were warranted, the Energy Division was instructed to allocate the reduction among LSEs.<sup>6</sup>

The CAISO encourages the Commission or assigned Administrative Law Judge to include a similar process in, or prior to, the upcoming Track 1 decision as well. The CAISO understands that certain Participating Transmission Owners have developed potentially viable operating solutions that were not incorporated into the Updated 2008 LCR Study, submitted on April 3, 2007. The CAISO, in consultation with the Energy Division, can again conduct an expedited public review process that will permit a final assessment of the proposed operating solutions sufficiently in advance of LSEs' procurement deadlines. However, unlike last year, the CAISO suggests that the process may be expedited by the assigned Administrative Law Judge issuing, prior to the proposed decision, a procedural schedule, including dates for submission of the proposed operating solutions and the date for the workshop.

**IV. The Current Process to Coordinate Resource Adequacy and Any CAISO Backstop Function Should Be Extended**

In its January 26, 2007 Track 1 proposals, the CAISO recommended that the Commission extend its current treatment of Reliability Must-Run ("RMR") resources and procedures for their integration into resource adequacy. Consistent with this position, the CAISO urges the Commission to accept "Proposal 8," as set forth in the Workshop

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<sup>6</sup> *Opinion on Local Resource Adequacy Requirements*, D.06-06-06 (June 30, 2006) at p. 15.

Report, as the appropriate framework to coordinate resource adequacy with the CAISO's "backstop" procurement role.

As discussed at the March 8 workshop, the CAISO intends to seek approval from its management and Board of Governors to align the criteria for its RMR Local Area Reliability Study ("LARS") with that of the LCR study, since having differing study criteria to identify the same local capacity need causes confusion and requires extra and unneeded effort to produce the technical studies. Notwithstanding the prudence of this policy, an unintended consequence of aligning the LARS and LCR study criteria was raised at the March 8 workshop. The concern is that with alignment of the criteria, once LSEs make their preliminary showings, any remaining deficiency could result in the CAISO procuring the entirety of the LCR capacity needs through the RMR contract, effectively making the preliminary showing a "final" showing providing no opportunity for LSEs to procure the deficiency on their own. This outcome could result in perverse incentives and does not comport with the CPUC and CAISO's objective to minimize RMR procurement.

The CAISO, however, believes Proposal 8 addresses this concern. The reason stems from the CAISO's assessment of the respective scope of, and relationship between, the Commission's resource adequacy product, the RMR contract, and the future replacement for the CAISO's RCST. In short, the CAISO views the resource adequacy product as the primary mechanism by which LSEs resume their obligation to serve their customers by ensuring the CAISO has sufficient access to capacity to reliably serve load. As such, it is, and should continue to be, a conventional and fungible capacity product. The RCST replacement product will constitute the CAISO's "backstop" authority to protect against failures in procurement by LSEs of the resource adequacy capacity product. RMR is intended to transition to focus primarily on securing specific reliability services, such as black start, voltage support, and dual fuel capability.<sup>7</sup>

RMR contract renewal notifications must be offered by October 1<sup>st</sup> for the following year. This notification does not apply to any necessary new RMR contracts.

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<sup>7</sup> The CAISO notes that it anticipates in the future engaging in efforts to develop discrete tariff based products to procure certain reliability services, such as black start, voltage support, and dual fuel capability. However, this effort will not be complete in time for 2008 procurement activity and therefore the CAISO will continue to rely on RMR in the near-term.

Accordingly, the CAISO intends that RMR contracts for 2008 will encompass those units that were either (1) designated RMR in 2007, but not listed on any LSE's 2008 preliminary resource adequacy showing, or (2) any non-capacity reliability services acquired through the RMR contract, e.g. black start, voltage support, etc. In this way, based on the preliminary showings plus any capacity from renewed RMR contracts, LSEs would have an additional opportunity to procure any remaining deficiency for inclusion in their final showing.

Two additional points should be noted. First, the use of RMR to obtain the non-capacity reliability services conforms to cost causation principles in that the reliability services benefit all transmission customers. Second, while the CAISO fully anticipates an RCST-like backstop procurement mechanism to be effective upon implementation of MRTU, the possibility exists that the CAISO will have to rely exclusively on its RMR authority after expiration of RCST. The alignment of the LARS and LCR criteria facilitates use of RMR to backstop resource adequacy procurement should this contingency occur. In this regard, it should be emphasized that the CAISO has always had the authority to offer new RMR contracts to address local reliability needs such that the change in criteria does not substantively enlarge the CAISO's existing ability to engage in RMR contracting.

## **V. Demand Response Impacts and Counting for Satisfying Local Capacity Requirements**

Commission Decision 06-06-064 determined "that qualifying, dispatchable demand response resources should be allowed to count for Local RAR showings to the extent feasible." The feasibility referred to in the Decision related, in large part, to corresponding the dispatchable load to the geographic load pocket. The CAISO asserts that the question of feasibility should be reexamined and its definition broadened. While the CAISO shares the Commission's commitment to realize the full value of dispatchable demand response ("DR") resources within the context of resource adequacy, the CAISO believes that the feasibility of counting DR, as a resource, should turn on its availability to the CAISO to be dispatched when needed to address reliability or system needs. Using this metric, the CAISO does not believe that either the interruptible or many other DR

programs are sufficiently coordinated with the CAISO's market processes to currently count towards satisfying LCR.

As the Workshop Report accurately notes, the CAISO expressed reservations regarding the efficacy of DR programs when measured against the fundamental goal of resource adequacy. The CAISO noted, for instance, that the eligibility for counting purposes of those DR programs that cannot be triggered absent a Stage 2 system emergency appears to presuppose that the resource adequacy program will not ensure conformance with the CAISO's minimum operating reserve criteria even under the 1-in-2 load forecast scenario.

While the CAISO does not believe that the workshop discussion resolved its concerns, the CAISO appreciates the leadership of Commission staff and the acknowledgment of many participants that additional coordination between the CAISO, utilities, and the Commission is necessary to prepare and "operationalize" these DR resources for the MRTU environment.<sup>8</sup> However, until this effort is completed or other acceptable solutions are reached, the CAISO recommends that the Commission reverse its prior conclusion to allow such DR programs to count towards resource adequacy goals.

## **VI. The CAISO Supports Progress towards a Standard Resource Adequacy Contract and Obligations**

On March 22, 2007, the Proponents filed a proposal to encourage the development of a standardized capacity product that is intended to satisfy several necessary characteristics, including is readily tradable, ensures availability of resources to the CAISO at times and placed needed for reliability, and comports with the Commission's resource adequacy program requirements. The key feature of the proposal is to make "RA capacity suppliers responsible directed to the CAISO, through explicit requirements in the CAISO Tariff, for their performance obligations, relieving LSEs or other buyers of RA capacity of the direct consequences of a supplier's non-performance." This division of respective responsibility between LSEs and suppliers and the

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<sup>8</sup> The CAISO recognizes that the protocols governing DR programs will be addressed in Rulemaking 07-01-041.

Commission and the CAISO is consistent with that discussed in Decision 05-10-035 (pg. 16-17).

The Proponents recognize that substantial work must still be done to achieve their goal of a generally accepted standard capacity product. In this regard, the Proponents request that the Commission initiate workshops to develop, and submit for approval, a pro forma standardized resource adequacy contract, and that the CAISO, in coordination with this effort, develop through its process affiliated changes to its tariff regarding supplier obligations. However, the proponents do request that the Commission approve the basic principles underlying the standard product, as set forth in the proposal, as part of the Track 1 order.

The CAISO agrees that continuing the progress made by the Proponents should be pursued in order to accelerate realization of the expected benefits of a more liquid market for capacity. However, the timing of this effort, including the Commission's review and approval of the basic principles, must be carefully coordinated with Track 2 of Phase 2 and the CAISO's MRTU implementation schedule. Any determination as part of Track 1 does not seem practical. Accordingly, the CAISO suggests that a separate effort should be commenced to initially evaluate a possible procedural schedule and structure to advance development of the obligations and requirements to support a standard capacity product.

#### **I. Conclusion**

The CAISO respectfully requests that the assigned Administrative Law Judge prepare a draft decision consistent with the foregoing discussion on Track 1 issues.

Respectfully submitted,

/s/Grant A. Rosenblum

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Attorney for  
The California Independent  
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**CERTIFICATE OF SERVICE**

I hereby certify that on April 6, 2007 I served, by electronic mail and United States Mail, a copy of Post-Workshop Comments of The California Independent System Operator Corporation on Resource Adequacy Phase 2, Track 1 Proposals on all parties in Docket Number R. 05-12-013.

DATED at Folsom, California on April 6, 2007.

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