

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

Order Instituting Rulemaking to Promote)
Policy and Program Coordination and)
Integration in Electric Utility Resource)
Planning)
_____)

R.04-04-003

**REPLY COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR ON
WORKSHOP REPORT ON RESOURCE ADEQUACY ISSUES**

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Dated: July 27, 2004

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The California Independent System Operator (“CAISO”) respectfully submits this reply to comments received on July 13, 2004, addressing the Workshop Report on Resource Adequacy Issues prepared by Administrative Law Judge Michelle Cooke in this proceeding (“Report”). Similar to its opening comments, the CAISO provides its reply comments on the issues addressed in the Report in the order those issues were presented therein.

I. Report Section 2 – Timing and Reporting Issues

The Commission must decide whether the resource adequacy showing follows the procurement approval process or incorporates an assessment of the reasonableness of procurement decisions into the resource adequacy showing.

As noted in the CAISO’s opening comments, the CAISO supports separating the year-ahead forward commitment showing from an assessment of procurement reasonableness. The determination of reasonableness should be known in advance of making the year-ahead showing and guidelines should be developed to provide approval of incremental capacity purchases by load serving entities (“LSEs”) to facilitate implementation of an obligation that LSEs demonstrate 100% of their peak load and

planning reserve margin on a month-ahead basis. This outcome follows from the mandate in Public Utilities Code section 454.5 to establish “[u]p front achievable standards and criteria ... for rate recovery” and may be accomplished through guidance provided by adoption of LSE long-term procurement plans.

In addition, the CAISO previously noted that a determination of reasonableness prior to the resource adequacy showing promotes the implementation of essential resource adequacy enforcement or penalty mechanisms. This is especially critical to the efficacy of any month-ahead obligation. Simply put, for the month-ahead reporting requirement to have meaning it must include an enforcement mechanism. But as argued by the CAISO in its opening comments, a penalty mechanism may become administratively unwieldy, fail to provide a timely deterrent, and leave insufficient time to engage in remedial action once the deficiency is identified, if the resource adequacy showing were combined with a reasonableness review.

The Commission must decide when an LSE must demonstrate that it has met the 90% year-ahead resource adequacy requirement.

The CAISO objected to adoption of a December 31 for the "year-ahead" showing date in its opening comments. The rejection of the December 31 showing date rested on two primary factors. First, it is inconsistent with the manifest intention of the Commission. Second, a December 31 showing requirement potentially results in insufficient time remaining to develop and implement measures to compensate for LSE noncompliance. The CAISO believes that these factors, and, most importantly, the risk to reliability, should supersede any incremental benefits of greater informational certainty cited by many of the LSEs. As previously noted by the CAISO, greater informational certainty with respect to supply issues may or may not benefit LSEs depending on the

prevailing market conditions. Load forecast information would admittedly be more refined the closer one moves to the operational timeframe. However, with the suspension of direct access and the potential for a limited and phased core/non-core market, much of the significant load uncertainty is muted.¹

Nevertheless, the CAISO recognizes that if a monthly reporting requirement, coupled with a meaningful compliance mechanism, is imposed by the Commission, a significant portion of the risk to reliability identified by the CAISO may be obviated. Therefore, the CAISO could support a December 31 yearly reporting date should the Commission also adopt an obligation that LSEs demonstrate 100% of their peak load and planning reserve margin on a month-ahead basis.

II. Report Section 3 – Phase In

The Commission must decide what phase-in of the 15-17% planning reserve margin is appropriate and whether to modify the 2007 timing of implementation of the year-ahead 90% forward commitment showing.

As discussed in the CAISO's opening comments, the proposed phase-in date of January 1, 2008 is "too slow" in Governor Schwarzenegger's opinion. President Peevey also thinks the phase-in "needs to be accelerated to ensure system reliability." The CAISO continues to believe that both the Governor and President Peevey are correct, and the Commission should move up the implementation date. In the CAISO's view, all LSEs should be required to (1) acquire a planning reserve margin of no less than 10-12% in 2005; (2) fully comply with the 15-17% planning reserve margin by June 2006 through monthly compliance showings, and (3) demonstrate the first year-ahead procurement

¹ See, *A Core/Non-Core Structure for Electricity in California*, CPUC Staff Report, Division of Strategic Planning (March 15, 2004); *Core/Non-Core Electric Market Structure Discussion Panel* by President Peevey [5-year core/non-core commitment].

showing in May 2006 for the 2007 summer season. The CAISO's position on this issue is explained in more detail in the CAISO's response to the July 8, 2004 Ruling, which was filed on July 22, 2004.

III. Report Section 4 - Load Forecasting Issues

4.1 Load Information Each LSE Must Submit

Commission needs to determine what level of confidentiality the forecast documentation will be afforded.

Most entities, including PG&E, SCE and SDG&E have reservations about the Commission publicly revealing disaggregated forecast documentation. Should an entity other than the CAISO be selected to verify the LSEs' load forecast, the CAISO will need to have unrestricted access to this data in order to perform deliverability analyses and determine coincidence factors for each LSE.

4.2.1 Coincidence Analysis

The Commission need not adopt the specific implementation method laid out in Appendix B, but must decide whether coincidence analysis should utilize LSE submitted forecasts or historical loads. In addition, the Commission must decide whether any supplemental analysis needs to be performed for purposes of identifying the forward obligation for resource adequacy purposes.

Most LSEs support use of a coincidence analysis to avoid over procurement of resources. However, SCE recommends delaying any decision on the use of coincidence analysis until further studies are performed. The CAISO does not support a delay in the use of coincidence analysis as suggested by SCE. LSEs have historical load data that can be employed right now to develop coincident factors for calculating each LSE's proportionate share of the coincident peak load forecast. In contrast, using forecast peak load data submitted by each LSE to develop coincident factors injects unnecessary

subjectivity into the determination of each LSE's proportionate share.

Regardless of whether the Commission decides to use historical or LSE-submitted load forecasts to develop coincident factors, due to how the calculation works there will be times when the calculated coincident factors, when applied on the first pass of the analysis, do not result in individual LSE loads that add up to the total coincident peak load forecast. This can happen when an LSE's forecast is significantly different from its share of the previous year's peak demand, or where the aggregation of all LSE forecasts significantly differs from the system-wide forecast of the entity performing the assignment and reconciliation of loads. In those cases, supplemental analysis will need to be performed to revise the coincident factors to reflect each LSE's true contribution to the coincident peak load forecast.

4.2.2 Should Forecasts (and Resource Adequacy Obligations) be Adjusted for Non-Coincidence?

The Commission must decide whether the load forecasts that set the resource adequacy 90% forward commitment obligation should be modified based on coincidence analysis. In addition, it would be useful for the Commission to identify whether it is willing to have another entity, and if so, which one, perform the coincidence analysis and modification to load forecasts based on the coincidence analysis.

The CAISO continues to support the use of a coincident-peak based methodology because it provides reasonable assurance that resources will be sufficient to meet load, provided that resources will be pooled when provided to the CAISO. Most LSEs favor an adjustment for coincidence in order to avoid any over procurement of capacity. Two of the main arguments in favor of no adjustment for coincidence with the CAISO system peak are (1) transmission constraints could inhibit an LSE's ability to serve its load if it is not fully resourced and instead relies upon a pooling approach, and (2) adjustment of an

LSEs' load for coincidence with the CAISO system peak will reduce LSE responsibility for 90% forward commitment. The CAISO believes that both of these concerns are addressed within the resource adequacy framework. First, transmission constraints would be identified in advance during the deliverability tests and resources would not be fully counted towards an LSE portfolio if the constraints were not mitigated. On the second concern, SCE is confused. If coincident peak analysis is appropriate in the first instance for system reliability and efficiency, then requiring LSEs to procure at 90% of that level is also appropriate and cannot, by definition, constitute a "reduction" in the LSE's regulatory obligation.

4.3 Assignment of Load Responsibility to LSEs

The Commission must decide which approach to forecasting customer base and assignment of load to LSEs it prefers. In addition, it would be useful for the Commission to identify whether it is willing to have another entity, and if so, which one, perform this assignment and reconciliation of load.

In order for resource adequacy to be effective, one of the fundamental objectives would be assigning all loads within the CAISO control area to an LSE. Of the two alternatives discussed at the workshop, the CAISO supports the proposal that each LSE should be responsible for its current roster of customers, including expected growth. Other parties, including AReM, support this notion because it ensures that all load is covered. The CAISO believes that this approach provides less opportunity to manipulate the submitted forecast. Also, with the assigned entity having access to historical load data, verification of submitted forecast should be fairly straightforward. The CAISO believes the Commission and/or the California Energy Commission ("CEC") have the expertise to perform the assignment and reconciliation of forecasted load; however, the chosen entity would have to work closely with the CAISO to agree on the monthly peak

forecast for the five summer months.

4.4 Inclusion of Losses in Load Forecasts

The Commission needs to decide whether transmission losses should be reflected in the load forecast by defining an LSE's load at the generation busbar or whether transmission losses should be reflected in the generation counting protocols. If the Commission decides instead that load should be defined at the CAISO interface then it should direct LSEs to adjust their load forecast for UFE and reduce generation qualifying capacity to reflect transmission losses.

Most of the LSEs recommend that LSE load be measured at the CAISO interface. In contrast, SCE recommends that LSE load be measured at the generation busbar, which is consistent with traditional measurement of system load. The CAISO understands that it may be less of an effort for LSEs to develop their forecasts at the CAISO interface since they possess historical scheduling and settlements data at the CAISO interface. However, the assigned entity would have to develop loss factors to adjust the forecast to the generator busbar by accounting for transmission losses between the CAISO interface and the generator busbar. Although these losses would not be charged to the LSEs, the losses would be included in the real-time monitoring by the CAISO and LSEs on their respective energy management systems, which incorporate measurements at the generator busbar.

IV. Report Section 5 – Calculation of Quantifying Capacity

5.1 Incorporation of Forced Outage Factor into Qualifying Capacity LSE Owned/Controlled Resources

The Commission must decide whether to adopt the formulas set forth for LSE owned/controlled resources with or without including a forced outage factor.

With respect to including a forced outage factor for LSE owned/controlled resources, the CAISO agrees with most other stakeholders that forced outage factors should not be applied at this time. As some parties have argued, many critical issues

must be resolved to begin implementation of an effective resource adequacy obligation and inclusion of a forced outage factor may add undue complexity to the initial roll-out. Nevertheless, it is essential that any resource adequacy obligation have the correct long-term incentives. Other ISOs do include an adjustment for forced outage rates to ensure resources do not receive equal treatment or value despite inferior availability. Therefore, the CAISO noted in its opening comments that the Commission should require that LSE contracts for such resources contain availability or performance standards as a prerequisite to qualifying as a capacity resource.²

Alternatively, the Commission could incorporate a forced outage rate factor after a specified transition period that derates (or augments) a resource's eligible capacity in such a way as to keep the overall margin based on a net dependable capacity norm. During this transition period, an agreed upon methodology could be applied to compile and process forced outage statistics to establish "normal forced outage" rates for different resource categories. A proposed rule would be to count as full net dependable capacity at the supply location³ if the particular resource's forced outage rate falls within the established norm; otherwise, the eligible capacity would be adjusted by the ratio of (1 – forced outage rate) of the resource compared to the norm. For example, if the normal ("reference") forced outage rate is 5%, a unit with 9% forced outage rate would have a capacity coefficient of $(100\% - 9\%) / (100\% - 5\%) = (91\%) / (95\%) = 96\%$. Thus, a unit whose net dependable capacity is 100 MW, would count as eligible for 100 MW if its

² In this regard, the CAISO contemplate that LSEs would be free to negotiate reasonable availability standards that would reflect minimum thresholds to prevent egregious deviations from the "normal" forced outage rate for that resource type. The CAISO recognizes that a draconian availability standard might have negative implications to the overall pool of capacity and price of capacity in that suppliers may feel compelled to provide their own reserves to avoid violation of the ramifications of a contractual breach.

³ This qualifier is necessary to avoid interfering with eligibility based on any deliverability requirements.

forced outage rate is 5%, as 96 MW if its forced outage rate is 9%, and as 102 MW if its forced outage rate is 3%. This solution would address the “double counting” for forced outages concern raised by LSEs and the subjectivity concerns raised by suppliers because the initial implementation would not be based on historical data. The CAISO emphasizes, however, that any potential controversy regarding this element should not be allowed to delay the prompt phase-in of the resource adequacy obligation.

5.2 Energy Limited Units

The Commission must decide whether this minimum hours requirement agreed upon by the parties for energy limited resources is acceptable.

The CAISO notes that most parties support a “minimum hour requirements” for energy-limited resources. As underscored in the CAISO’s opening comments, the “minimum hours requirement” has two components. First, individual energy-limited units must be available no less than 4 hours per day for 3 consecutive days. Second, LSEs must marshal sufficient qualifying capacity to meet a total number of hours per month “based on the 1998-2003 average monthly number of hours that system load exceeded 90% of the monthly system peak, rounded to the nearest ten.” The CAISO further agrees with SCE’s clarification that “energy-limited resources” in this context do not include demand response programs or energy efficiency programs.

Consistent with the foregoing, in demonstrating future resource adequacy, the CAISO believes LSEs should procure the required MW threshold (based on adopted forecast methodology) for each summer month and that the required duration for each summer month’s procurement be calculated as the number of hours in that month where the system load is forecast to exceed 90% of that month’s system peak, rounded to the nearest ten. PG&E requests that LSEs be allowed to aggregate energy-limited resources

to satisfy these minimum hour requirements, rather than force each individual resource/unit to fully meet the requirements. The CAISO recognizes that instances exist where an aggregation of resources may be necessary to realize the intended value of a particular resource type. Therefore, the CAISO does not oppose PG&E's proposal to aggregate qualified energy-limited resource capacity in satisfying its procurement obligation. However, the CAISO qualifies its support for aggregation with the understanding that units can be aggregated to meet the monthly hours requirement, but each individual unit must still be able to run for no less than 4 hours for 3 consecutive days. In addition, an LSE's resource adequacy showing should provide sufficient detail to account for each individual unit's contribution (in MWs and hours) within the aggregation.

5.3 Qualifying Capacity Formulas for Existing Qualifying Facility Contracts

The Commission must decide which of the options for solar (without gas backup) and wind resources to adopt, and whether to adopt formulas proposed for Existing Qualifying Facility Contracts in light of its decision on forced outages.

In counting existing QF solar and wind resources, the CAISO notes general support and agreement among the parties for "Option 1," which focuses on average historical performance during peak hours. However, the CAISO disagrees with SDG&E's and ORA's recommendation to "gross up" these recorded deliveries in an attempt to remove the effect of forced outages. The CAISO's position rests primarily on the administrative obstacles noted in PG&E's comments that QF forced outages are not consistently reported. The output of these resources is often a function of physical weather conditions, and, as such, measured historical performance represents the most likely measure for future output.

The California Cogeneration Council (“CCC”) correctly notes in their comments that the period of “peak hours” should also be clarified. CAISO agrees that such clarification is needed. As indicated in the Report (page 26, footnotes 21 and 25), the period of peak hours for measuring historical performance has not been defined. CCC suggests a peak hours definition tied to the peak season defined in the QF standard offer contracts. The CAISO would prefer a simpler approach, where the definition for past summer peak hours comports with other resource adequacy references to historical data. For example, peak hours could be defined as the same hours during the previous 5-6 years of summer months when the system load exceeded 90% of the monthly system peak. Based on the table provided in Report Section 5.2, this would provide 1000-1200 hours of historical operational performance data at peak.

TURN also raises a good point that some methodology is needed with respect to new wind and solar resources where historical output data is unavailable. The CAISO supports an approach that would apply the derate factor observed for other established units in the CAISO system of the same technology type until the historical data has been collected.

5.4 DWR Contracts

The Commission must provide its definition of full credit and value of DWR contracts so that LSEs know how they can rely on the DWR contracts in the year-ahead showing.

CAISO recognizes that it is important to resolve the interpretation of DWR contracts now in order to move forward in the resource adequacy process. However, the CAISO urges the Commission to reserve the right to revisit the DWR contract interpretation (if needed), pending the outcome of the related Federal Energy Regulatory

Commission ("FERC") Section 206 proceeding.⁴ Most of the parties agree that DWR contracts should be counted, but differ on whether or not to apply a deliverability test. Deliverability of DWR contracts presents somewhat of a dilemma for the CAISO given its firm belief that deliverability should be established for all qualified resources. However, many DWR contracts do not identify/depend upon a specific source to perform the deliverability analysis. Thus, at least a potential outcome of the Section 206 proceeding is a requirement that suppliers be required under these contracts to provide the CAISO with sufficient information regarding the sources of supply such that the CAISO can confirm that the stated capacity is from capacity that has been determined by the CAISO to be deliverable using the adopted deliverability test.

5.5. Contracts

5.5.1 Intra-Control Area System Sales

The Commission must decide whether intra-control area system sales constitute qualifying capacity for purposes of the year-ahead resource adequacy showing.

The CAISO recognizes that “intra-control area system sales” (also referred to as “Firm Liquidated Damages” or “Firm LD” contracts) are a present day reality, and will probably have to be counted as qualifying capacity to some degree in the short-term to timely implement a meaningful resource adequacy requirement. However, as largely financial instruments, Firm LD contracts and their application to resource adequacy should be phased-out and replaced with physically based transactions. In this sense, the CAISO is supportive of a hard grandfather date, as suggested by several parties, including TURN.

⁴ *Order on Further Development of the California CAISO's Market Design and Establishing Hearing Procedures*, 107 FERC 61,274 (2004).

One of the CAISO's principal objections to Firm LD contracts applying as qualifying capacity toward a resource adequacy obligation is their incompatibility with a deliverability requirement. Parties' opening comments have not resolved this issue. The CAISO disagrees with SDG&E's and SEGE's notion that through the CAISO's exposure to schedules, the CAISO could validate the adequacy of Firm LD contracts by verifying that sufficient resources are available to serve all Scheduling Coordinator trades. Even if the CAISO could obtain all the information and overcome the administrative burden of this task, at best it would be a loose verification at a macro-level, insufficient to measure any individual LSE's resource adequacy.

Even assuming a reasonable transition period, the parties need to develop a feasible deliverability test/interpretation for Firm LD contracts. For this reason, the CAISO supports SCE's suggestion of capacity tagging, and asks the Commission to further explore such a mechanism.

5.6 Estimating Load Reductions from Demand Response Programs

5.6.1 Must Demand Response Programs Meet a Minimum Hours Requirement to Have Value in the Resource Adequacy Showing?

Upon receipt of the CAISO data, the Commission must decide whether demand response resources may be relied upon in an LSE's year-ahead forward commitment showing without meeting the minimum hourly and monthly availability requirements recommended for energy limited generation resources. If the Commission decides that demand response resources must be available for more than two hours to be used in the year-ahead showing, the Commission must decide what minimum hourly and/or monthly availability requirements must be met.

The CAISO continues to support the concept that demand response capacity must satisfy a minimum duration requirement to qualify in an LSE's resource adequacy showing. The CAISO also recognizes (as similarly noted in TURN's and SDG&E's comments) that some programs may be limited to something less than the minimum

threshold. Accordingly, the CAISO supports an option that would allow LSEs the limited ability to submit aggregated blocks of demand response to meet their peaking needs, so long as a mechanism exists to account for each individual demand response program's contribution (in MWs and hours) in satisfying the overall procurement requirement. Based on the CAISO's analysis, up to .89% of 2-hour demand products can qualify for meeting the resource adequacy obligation. This equates to approximately 400 MW of load. However, this quantity reflects the amount that can be applied reliably under peak conditions and therefore constitutes an upper boundary on the use of demand products. A contrary conclusion is simply incorrect. The CAISO's analysis shows the maximum amount that would fit under a system-wide load duration curve, or the "effective" amount of capacity available, to satisfy peak conditions. Yet, the CAISO acknowledges that this amount does not reflect the total MWs that should be signed up to participate in demand response programs. The total amount should be determined by the historic or projected performance of these programs to produce the targeted amount of load reduction.

5.6.2 Should Demand Response Programs Be Treated as Demand Reduction or Supply for the Resource Adequacy Showing?

The Commission must decide whether demand response programs (interruptibles, direct load control, and price responsive demand) are treated as a demand reduction or supply resource for purposes of assessing resource adequacy.

The CAISO maintains its original position: demand response and interruptible loads should be counted as resources. Such customer interruption programs were originally developed as extreme capacity relief measures to be used infrequently to address system emergencies resulting from forced outages or other contingencies. Thus, the routine forward procurement of resources should be measured against a "true"

forecasted load value, not one distorted/discounted by rarely invoked programs.

Likewise, such treatment is consistent with how the CAISO regards today's forecasted system load: as stated in our previous comments, the CAISO regards this interruptible demand as firm as any other load. The CAISO has historically been required to carry operating reserves on demand response programs per the WECC Minimum Operating Reserve Criteria (MORC).

5.7 Timing of When to Count Resources Under Construction

The Commission must decide when a project under construction is eligible to be counted for purposes of the year-ahead resource adequacy showing.

The CAISO maintains its conservative position on this issue. A new resource under construction should only be counted beginning 120 days after its scheduled Commercial Operating Date ("COD"). To make this requirement effective and transparent to the market, there must be an authoritative source for accurate and current COD information for each resource under construction, and this information must be regularly posted to a public website.

The CEC currently posts COD information on its public website for resources rated 50 MW and greater in capacity (resources 50 MW and greater are required to obtain approval of the projects through the CEC). Currently there is no public website where information is posted for resources under construction with a rated capacity of less than 50 MW. The CAISO tracks COD information for resources under construction that are 1 MW or greater and are interconnected to the CAISO Controlled Grid or plan to participate or market their energy through the CAISO. However, the CAISO does not currently post this information to a public website. Thus, the Commission should adopt the proposal to base the COD on the CEC webposting and develop a mechanism to post a

COD for resources under construction with a rated capacity under 50 MW. This additional posting is needed for both resources that will be included as a deduction from an LSE's load forecast (i.e., a resource located behind the meter and netted out of the LSE's load calculation), as well as resources that will want to sell their capacity to an LSE to help that LSE meet its resource adequacy capacity requirements.

In the CAISO's experience, new generating units should not be counted until "fully hatched." Many new generating projects experience delays in meeting their specified COD, and some even exhibit availability problems for a several months thereafter. The CAISO disagrees with TURN's compromise "phased" approach of incrementally adding 25% of the capacity over four months following the COD as this introduces added complexity to the resource adequacy calculation without necessarily adding any accuracy. Most notably, a new resource is either available or it is not available. It is generally not the case that a new resource can reliably sustain an output of 25% while the remainder of the facility is still under construction, testing, etc. To allow resources to somewhat arbitrarily qualify a portion of their under-construction (or in-place, but undergoing testing) facility as bona fide, dependable, and reliable capacity introduces unacceptable additional risk into the resource adequacy calculation. The adopted 15%-17% planning reserve margin provides sufficient insurance that it is not necessary, or advisable, to "fudge" the true readiness of new resources.

The CAISO also rejects SCE's alternate proposal to borrow the CAISO Controlled Grid study's interpretation for new generators. Planning studies are intended for a different purpose, are less specific/granular in their represented timeframe, and certainly do not ensure that adequate capacity is physically available to meet the LSE

obligation.

V. Report Section 6 – Deliverability

6.1 Baseline Analysis of Deliverability of Resources to CAISO Control Area and Aggregate of Load

The Commission must decide whether the baseline deliverability analysis should contain a preference for existing internal generation and limit import capacity at the historical usage level, for purposes of the year-ahead 90% forward commitment requirements.

PG&E’s comments on page 19 state that an upward adjustment should be made to import levels above historical usage, when appropriate. TURN’s comments on pages 26 and 27 state that “TURN believes that there should be no presumption in favor of either internal or external generation.” PG&E’s and TURN’s concerns were addressed by the CAISO’s opening comments at page 29: “...an enhancement to this methodology could be included when LSEs determine that additional import capacity is needed beyond historical usage. For example, if an LSE’s long-term resource plan indicates a level of imports that exceeds historical import capacity, then the LSE could work with the CAISO, Commission, and CEC to investigate the availability of these additional imports.”

Regardless of the methodology adopted for increasing the amount of import capability for resource adequacy planning purposes beyond historical usage, the methodology should be designed to prevent reservation of transmission that has not been used historically nor committed to be used for resource adequacy purposes, because such withholding would negatively affect new generators that are seeking to build within California and interconnect to the CAISO Controlled Grid through the CAISO interconnection procedures.

PG&E’s comments on page 19 state that firm import and export contracts do not need to be known and that all existing transmission contracts do not need to be accounted for in the CAISO’s import deliverability analysis. Although existing firm import contracts should be reflected in historical data if they were in effect, some contracts like unit contingent contracts may not be reflected because of unit outages. Existing import contract information is needed to ensure that the total import capacity to be tested is sufficient to accommodate them. Existing firm export contract information is needed so that these exports can be netted with imports when ensuring that net imports are less than the transfer capability across an import path

6.2 How Should “Deliverability” be allocated to Existing Resources if Deliverability to Aggregate of Load is constrained?

The Commission must decide how to allocate “deliverability” to existing resources if deliverability to the aggregate of load is constrained.

Any guidance the Commission can provide as to whether, and if so, how, deliverability of resources should be derated due to general system conditions will help provide certainty and investment direction.

SDG&E’s comments state the following on page 10 (Sempra Energy Global Enterprises had a similar comment): “Also, when assessing any deliverability issue (including generation pocket exports) for the purposes of planning reserves, the CAISO should recognize that for purposes of resource adequacy and planning reserve requirements, not all of the resources must be simultaneously deliverable; that is, energy deliveries are always equal to 100%, not 115%, of load requirements. The 15% held for operating and planning reserves may count toward resource adequacy even if it cannot all be exported from the generation pocket, as this would be used for needed reserves – not energy. A test for energy delivery equal to 115% of load would be unnecessarily conservative.”

SDG&E's comments above could be interpreted to mean that the CAISO intends for all generating units on the system to be simultaneously deliverable at 100% of their output. That is not what is proposed in the deliverability methodology. Rather, under the proposed methodology, which is derived from PJM's methodology, no more than 20 units would be tested simultaneously to determine if their full output could be simultaneously delivered to the aggregate of load. Further SDG&E incorrectly presumes that the CAISO studies would simultaneously serve 115% of load. The methodology does not require that all units on the system be simultaneously deliverable.

Regarding the issue of generation pockets, SDG&E appears to be under the impression that units contributing to operating reserves do not need to be simultaneously deliverable. This notion is dangerous terrain when the premise of resource adequacy is a planning exercise to ensure sufficient capacity is committed to meeting the operational requirements in real-time. In fact, any generator that is expected to provide reserves must be deliverable during peak conditions as it may be called upon to provide energy at any time. Not having the full deliverability of such generators would only create a false value to reliable operations. Therefore, any resource adequacy requirement must account for the reality where the system operator may need to rely on all units within a particular generation pocket to replace unavailable generation in other portions of the control area. Thus, deliverability studies must analyze the ability for all resources in a generation pocket to get out to the benefit of the aggregate load without being constrained. To the extent they cannot be delivered, they should not be fully qualified for counting towards a resource adequacy obligation (deliverable portions should qualify). It should be noted that this limitation on resource adequacy qualified capacity would not limit the value of

certain units for providing energy on an as available basis.

On page 20 of its comments, PG&E proposes criteria for preserving the deliverability of generation (CAISO assumes that PG&E agrees that the interconnection of new generation should not degrade the deliverability of existing generation). On page 9 of its comments, SDG&E also proposes criteria for allocating deliverability between multiple generators in the initial baseline deliverability analysis, when a deliverability constraint is identified. Both of these proposals have merit, and warrant consideration by the Commission, but whatever is decided in this proceeding regarding preserving or allocating deliverability must not conflict, from a FERC perspective, with the CAISO objective of providing congestion revenue rights (“CRRs”) as compensation to generating units that fund network upgrades. In the CAISO’s FERC Order 2003 compliance filing, a deliverability level will be assigned to generation as part of the CAISO generation interconnection procedures.⁵ In many cases, in order to assure full deliverability generators will be responsible for funding network upgrades. On an interim basis these generators will be reimbursed all network upgrade costs. The CAISO believes that, on a long-term basis, the provision of financial rights (i.e., FTRs/CRRs) as compensation for interconnection customers that fund network upgrades provides a much better price signal to interconnection customers as to where to locate their generating facilities on the system and the potential impact on the system and ratepayers from their interconnection.

SCE’s comments on page 15 state the following: “The criteria used to assess the deliverability of existing generators should be consistent with the criteria used to interconnect them to the grid. That is, it is not appropriate to retroactively apply

⁵ *Large Interconnection Procedures of the California Independent System Operator*, ER04-445-000 (April 26, 2004).

contingency conditions (e.g., N-1 for loss of a transmission element) that were not included in the interconnection assessment performed for that generator.” The CAISO generally agrees with the first sentence that the development of the deliverability methodology should be consistent with past practices. However, the CAISO does not understand what is meant by the second sentence. If, by mistake, a particular contingency was not checked during the performance of the interconnection study for a generator, this mistake should not be perpetuated. After a generator is interconnected and certified, the responsibility for building transmission upgrades inadvertently omitted from the interconnection study should fall upon the transmission owner and rolled into rates as part of the annual transmission expansion planning process. As stated in its previous comments, the CAISO supports a Commission policy that requires transmission owners to make system upgrades as necessary to keep existing generators deliverable.

6.4 Is there a Resource Adequacy Requirement in Load Pockets?

The Commission must decide whether deliverability should be assessed on aggregate basis or load pocket basis.

PG&E’s comments on page 22 assert that the existing CAISO annual grid planning process addresses load pocket issues and, in order to avoid duplication of efforts, the results of this process can be incorporated in the resource adequacy process. The CAISO agrees with PG&E that some information on load pocket resource requirements can be obtained from the grid planning process and that the CAISO’s grid planning process and LSE procurement activities must be closely coordinated. In this regard, the CAISO recommends that participating transmission owner LSEs incorporate all locational resource requirements identified in their transmission expansion plans into their respective long-term integrated resource plan. However, as previously stated by the

CAISO, the CAISO's grid planning process does not provide the appropriate forum to comprehensively evaluate resource alternatives for LSEs to satisfy their capacity needs in load pockets. Transmission resources constitute only one of several viable options available to LSEs. Requiring a local capacity requirement as part of the LSEs resource adequacy obligation that is coordinated with the LSEs resource procurement plans provides the proper mechanism to close the gap between the resource adequacy process and the grid planning process.

SDG&E argues at pages 11 and 12 of its opening comments that a resource adequacy requirement for load pockets would be redundant to the RMR / Local Area Reliability Service (LARS) process. However, the RMR process is a year-ahead process and options for providing this local area reliability service are limited to signing RMR contracts or capital projects that can be completed within one year. RMR contracts do not increase the amount of transmission or generation capacity installed in the load pocket. Because of the limited options available, the set of contingencies considered in the RMR criteria are less stringent than the CAISO Grid Planning Standards. These characteristics of the current RMR study process can result in insufficient resource availability in load pockets.

Moreover, the general practice in the electric utility industry (by most RTO/ISOs) for load pockets with numerous generators is a one-day in 10 years loss of load probability or expectation criterion ("LOLP"). However, because a LOLP load pocket criterion is both a resource adequacy criterion and a grid-planning criterion it should be endorsed by both the Commission and the CAISO. The CAISO proposed this approach in its deliverability to load pocket proposals and continues to support this method to

determine the resource adequacy requirements for transmission-constrained portions of the grid.

VI. Report Section 7 – Other Topics Discussed at Workshop

7.1 Multi-Year Forward Contracting Requirement

The Commission must decide whether it wishes to entertain this requirement at this time.

Given the coordination required between the resource procurement process and the transmission planning process, and the fact that it can take 3-10 years to place a facility into operation, a multi-year, firm commitment requirement should be included in the resource procurement process. The CAISO proposes that the Commission require LSEs to forward contract 3-5 years in advance and demonstrate that they have acquired sufficient resources three years in advance to meet a fixed percentage of the planning reserve margin, e.g., 80% in year two and 70% in year three.

This multi-year forward requirement is advantageous to resource adequacy's goal of promoting infrastructure development. A multi-year showing provides potential new market entrants with a realistic opportunity to bid against existing resources. A one-year-in-advance forward contracting requirement, which is supported by a number of LSEs, does not provide the forward-looking perspective and long-term commitment necessary to create an incentive for new generation and to allow such new generation to compete against existing resources.

In its opening comments, PG&E supports a multi-year forward contracting requirement that goes out five years. While such a long time period is attractive from a resource adequacy perspective, the CAISO acknowledges that load may be much more unpredictable for some LSEs than for other LSEs. For those LSEs with a potentially

highly variable load, five years would be likely be too long a time horizon.

The CAISO supports a three-year time horizon, with a diminishing obligation in each subsequent year, as this time period strikes a reasonable balance between the need to acquire needed capacity well in advance and the reality that some LSEs will have variable load that makes it problematic for them to acquire a specific amount of resources five years in advance because the ability to accurately forecast becomes more difficult with each year.

7.3 Capacity Tagging

The Commission must decide whether a resource that has received a capacity tag, as defined above, is acceptable for purposes of the 90% year-ahead forward commitment showing. The parties also believe that the Commission must decide in advance whether use of the resulting market is reasonable.

The CAISO supports the concept of capacity tagging, provided that a standard homogeneous product can be defined for identifying resources that are capable of meeting resource adequacy obligations, and it recommends that the Commission support development of capacity tags. The CAISO believes the use of capacity tags will directly benefit the resource adequacy framework because they offer the opportunity to simplify the reporting and must offer issues raised by many parties. These benefits derive from the basic tenets of the capacity tag as an obligation for the resource to make itself available to CAISO and that the amount of capacity is determined by the application of all resource adequacy screens, such as deliverability. Once a product is defined, the CAISO believes these “tags” can immediately begin trading as part of the bilateral contracting process. Over time and with sufficient transaction volume, a formal secondary market may develop for auctioning capacity tags.

Although the CAISO believes the Commission should adopt the notion of

capacity tags because of their inherent value to simplify reporting and must offer obligations, at the current time, insufficient information exists in the record for the Commission to make final a decision on this issue. The proposals that have been submitted are only broad conceptual proposals. The CAISO encourages the Commission to further consider this issue in a separate phase of resource adequacy. For instance, the Commission should acknowledge the value of a tagging proposal and commit additional resources to define precisely how the “tags” will be bought, sold, and/or traded.

July 27, 2004

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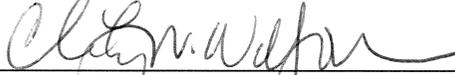
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I hereby certify that I have served, by electronic mail, a copy of the foregoing Reply Comments of The California Independent System Operator Corporation on the Workshop Report on Resource Adequacy Issues to each party in Docket No. R.04-04-003.

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