

**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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**PROPOSALS OF THE
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION ON TRACK 1 ISSUES**

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In accordance with President Peevey’s “Assigned Commissioner’s Ruling and Scoping Memo for Phase 2” (“Scoping Memo”) issued on December 22, 2006, in the above-referenced docket, the California Independent System Operator Corporation (“CAISO”) respectfully submits its proposals on “Track 1” issues prior to Commission workshops.

I. Introduction

The Scoping Memo divided Phase 2 into three separate tracks that will lead to a series of Commission decisions. Track 1, and its scheduled June 2007 decision, is intended to focus primarily on refining local resource adequacy requirements and selected other programmatic topics for 2008 - 2009 and possibly beyond depending on the outcome of the Track 2 debate on capacity markets. The CAISO strongly supports the Commission’s efforts to enhance the resource adequacy program and its ability to achieve the fundamental objective of ensuring sufficient resources are available when and where needed.

The CAISO therefore appreciates the opportunity to further address the topics of local and zonal capacity requirements, backstop procurement and the role of particular demand response programs in the current resource adequacy program. The CAISO will reserve its right to comment on other parties' proposals with regard to the other topics identified in the Scoping Memo, namely, load forecast coordination with the California Energy Commission ("CEC"), potential changes prompted by Assembly Bill 1969, and other potential "minor" implementation changes.

II. Local Resource Adequacy Requirements

The Scoping Memo requests exploration of a number of issues affecting local resource adequacy for 2008 and beyond that were left unaddressed by D.06-06-064.

These issues may be summarized as follows:

- Modifications and refinements to the local capacity requirements ("LCR") study process, including reexamination of study parameters such as 1-in-10 load forecast, reliability options or targets, and use of effectiveness factors.
- Conversion of the annual determination of LCR into a "ministerial" process for 2009 and beyond.
- Whether to continue aggregating local areas within investor owned utility service territories for defining the procurement obligation of load serving entities (LSEs)?
- Whether to limit LSE obligations to procure no more than the existing capacity in generation deficient local areas identified by the CAISO?
- Refinements to the Load Serving Entity ("LSE") waiver process.
- Whether to implement a monthly filing process for LCR to allow LSEs to reflect the impact of load migration.¹

The CAISO's comments address each of these topics. However, consistent with the schedule set forth in the Scoping Memo, the CAISO will defer the specific discussion

¹ Scoping Memo at pp. 4, fn.2 and 6-7.

on moving to a “probabilistic” LCR Study approach until it releases its 2008 LCR Study results on or before March 9, 2007.²

A. The LCR Study Process Becomes More Collaborative Among the CAISO, Commission and other Local Regulatory Authorities in 2008 and Beyond.

The Scoping Memo notes that the “Commission and CAISO programs need to be closely coordinated in establishing local capacity requirements in 2008 and beyond.”³ The need for coordination arises not only from the extension of LCR to non-jurisdictional entities by the CAISO under MRTU, as noted in the Scoping Memo, but also from the MRTU Tariff provisions’ intrinsic recognition of the interdependence of the Commission and CAISO in ensuring sufficient local capacity. In this regard, the LCR-related provisions of MRTU reflect a continuation of the CAISO’s authority to evaluate local capacity needs, as it has routinely done under the Reliability Must-Run (“RMR”) process, while respecting the traditional jurisdictional reach of the Commission and other state regulatory authorities. They do, however, potentially alter the LCR study process by creating a clear delineation between the respective roles of the CAISO, as the entity authorized to determine grid reliability needs, and the Commission and other Local Regulatory Authorities, as the entities entitled to direct how to meet those needs.

In the spirit of the Scoping Memo’s request for “proposals,” the following is not intended to dictate any future relationship or process, but instead provides a potential roadmap to increase the effectiveness of the LCR process.

² *Id.* at p. 21.

³ While apparent, the CAISO notes its explicit understanding that the Scoping Memo intends to have parties address the LCR study process in 2008 for establishing obligations for 2009. For 2008, the CAISO advocates retaining the status quo with respect to study process, underlying study assumptions and methodology, and decision-making structure. The CAISO anticipates that the final conclusions and report of the CAISO’s Local Capacity Requirements Study Advisory Group (“LSAG”) to be submitted on March 9, 2007, will provide the Commission with sufficient technical support to adopt 2008 LCR without evidentiary hearings and within the schedule set forth in the Scoping Memo.

1. LCR Related MRTU Tariff Provisions

On September 21, 2006, the Federal Energy Regulatory Commission (“FERC”) issued its order conditionally accepting the CAISO’s proposed MRTU Tariff provisions (MRTU Order).⁴ The Commission and other parties have challenged the MRTU Order as encroaching on state jurisdiction. While the CAISO acknowledges these challenges and the uncertainties created thereby, the CAISO nevertheless feels compelled to proceed in accordance with the directives of the MRTU Order if and until modified.

The MRTU Order stated:

... the CAISO must play a greater role in setting *local* RA requirements because it is uniquely situated to assess capacity needs in constrained areas and load pockets. In this manner, the CAISO’s role is similar to the role it plays today in assessing RMR requirements. The CAISO will perform an annual technical study to determine the minimum amount of capacity that must be available to the CAISO within each local capacity area. The CAISO will then work with Local Regulatory Authorities to set local capacity area requirements. While the CAISO has a larger role in setting *local* capacity area requirements than in setting *system* RA requirements, we find that the MRTU proposal, with certain modifications, strikes an appropriate balance between recognizing the authority of state and local entities to establish reliability assurance requirements and the CAISO’s responsibility to maintain the reliable operation of the transmission grid and administer wholesale markets that produce just and reasonable rates.⁵

The local resource adequacy provisions approved by FERC authorize the CAISO to conduct a “technical study that determines the minimum amount of Local Capacity Area Resources that must be available to the CAISO within each Local Capacity Area.” (CAISO MRTU Tariff § 40.3.1.) The CAISO must collaborate with the Commission, Local Regulatory Authorities, and other Market Participants on study assumptions, parameters, and other criteria, which must permit compliance with Applicable Reliability

⁴ *California Independent System Operator Corporation*, 116 FERC ¶ 61,274 (2006) (“MRTU Order”).

⁵ *Id.* at P 1119 (emphasis in original).

Criteria (“ARC”).⁶ (*Id.*) This is analogous to the CAISO’s long-standing authority to identify local capacity requirements through its RMR-process. The determination of the minimum capacity requirements and any allocation by the CAISO of those requirements to all LSEs within its Control Area under the LCR Study does not obligate any LSE to procure capacity. (CAISO MRTU Tariff § 40.3.3.) Rather, the aggregate capacity requirements and allocation are used to determine the cost responsibility associated with any necessary CAISO reliability or backstop procurement to satisfy ARC as defined in the technical study.

2. Potential Future Interdependent Roles of the CAISO and Commission in Determining LCR

Given that the outcome of the CAISO’s LCR study process has potential financial consequences to all LSEs in its Control Area, coordination with the Commission is critical to ensure both regulatory and market efficiency. In this regard, the CAISO study process appears to be the appropriate forum to develop, promulgate, interpret and reexamine ARC and their appropriate application, as well as select other study assumptions such as the proper load forecast. This is especially true since the CAISO is independently obligated under Sections 5.1.2 and 5.1.5 of its Transmission Control Agreement to work with its Participating Transmission Owners (“PTOs”), including the IOUs, to develop ARC and ensure operation of the ISO Control Grid consistent with such

⁶ Applicable Reliability Criteria under the CAISO Tariff are “[t]he reliability standards established by NERC, WECC, and Local Reliability Criteria as amended from time to time, including any requirements of the NRC.” (CAISO Tariff, Appendix A, Master Definitions Supplement.) Local Reliability Criteria under the CAISO Tariff are “Reliability Criteria unique to the transmission systems of each of the PTOs established at the later of: (1) ISO Operations Date, or (2) the date upon which a New Participating TO places its facilities under the control of the ISO.” (*Id.*) Finally, Reliability Criteria under the CAISO Tariff are “[p]re-established criteria that are to be followed in order to maintain desired performance of the ISO Controlled Grid under contingency or steady state conditions.” (*Id.*)

agreed-upon ARC.⁷ In light of this authority, and pre-existing duty, the CAISO suggests that the determination of study assumptions and methodology can be most efficiently accomplished, and avoid unnecessary regulatory duplication, through reliance on a collaborative, comprehensive and unified CAISO LCR study process.⁸

Shifting the primary forum from the Commission to the CAISO to conduct the LCR Study does not, however, usurp or otherwise encroach on the acknowledged role of the Commission or other Local Regulatory Authorities. Not only does the Commission assist in shaping the study parameters, but it also continues to decide the means by which the identified grid reliability standards should be achieved and therefore control the implications of those decisions on the service received by consumers. The CAISO envisions this happening at several steps in the process ultimately leading to commission established LCR obligations.

First, similar to the process employed in the 2006 and 2007 LCR determinations, the Commission, PTOs or other market participants may offer non-capacity options during the CAISO LCR Study process in order to lower the capacity requirements needed to meet the ARC. It is appropriate that such solutions be vetted at the CAISO since any non-capacity options advanced to meet the ARC, such as automatic load shedding schemes or operating procedures implementing manual load shedding options, must be operationally feasible.

⁷ The adoption and interpretation of reliability criteria by a FERC-approved Electricity Reliability Organization (“ERO”) pursuant to provisions of the Electricity Policy Act of 2005 may alter the role or, at least the discretion, of the LCR technical study process to modify or interpret ARC.

⁸ The CAISO LCR Study process, therefore, would establish a baseline capacity level necessary to ensure grid reliability. This baseline would be transparent and uniformly applicable. The uniformity of the application of the reliability capacity objective ensures the cost of CAISO backstop procurement, if any, is equitably allocated to all LSEs within its Control Area.

Second, the Commission may then utilize, in its own forum, the outcome of the CAISO's LCR Study process to determine how to meet the grid reliability needs. This proceeding may evaluate whether to rely on LSE-driven procurement of generation capacity and/or demand response,⁹ CAISO backstop procurement, or an appropriate mix of the above. The CAISO therefore foresees the CAISO LCR Study as flowing into a Commission regulatory process that focuses on how to convert the CAISO results, which already reflect Commission input, into resource adequacy obligations for the Commission's LSEs. Depending on the specificity of the pre-designated procurement guidelines, this process may become ministerial. Again, this is possible because the Commission has previously shaped the outcome of the CAISO's LCR Study both in basic study assumptions and methodology as well as in non-capacity solutions to achieving ARC.

B. Aggregation of Local Areas Is Acceptable Subject to Continued Monitoring

In its previous filings on this issue, the CAISO's concern regarding aggregation of local areas was due to the possibility that over-procurement would occur in some of the load pockets and under-procurement in others, resulting in the CAISO having to rely on its backstop procurement authority to fix any collective deficiencies in the under-procured areas. The CAISO was concerned that this policy could result in adding costs that were preventable in that the CAISO reliability needs do not change, even if the regulatory or commercial environment does.

⁹ In the short-term, as discussed further below, it may be impractical for the Commission and other Local Regulatory Authorities to adopt suitable demand response products. However, over time, appropriate demand response products can be designed and marketed so as to provide a reasonable alternative to generation capacity to meet local grid reliability.

However, the 2006 local resource adequacy showings were satisfactory and the CAISO's original concerns about possible under-procurement in any particular local area did not materialize. Thus, given the Commission's originally stated benefits of aggregating six of the seven local areas in PG&E's territory, the CAISO does not object to the Commission continuing its stated policy in D.06-06-064 to monitor and reevaluate the prudence of the policy should backstop procurement grow to an excessive level. Indeed, in order to be consistent with this Commission ruling, the CAISO's backstop cost allocation provisions of the MRTU Tariff permit aggregation of local areas for non-Commission jurisdictional LSEs when evaluating whether any potential deficiency is due to "collective error" or individual deficiencies of one or more LSEs. (CAISO MRTU Tariff § 40.3.2.)

Should the Commission be interested in taking its monitoring policy a step further in Phase 2, the CAISO would suggest it consider Constellation's original proposal of "...having a procedure whereby any use of CAISO backstop procurement to meet 5% or more of an LSE's overall local procurement obligation would lead to Commission evaluation of the aggregation mechanism."¹⁰ In other words, the Commission may want to consider an explicit trigger to provide greater clarity around when an evaluation of its aggregation policy should be made.

C. Extension of the Commission's Waiver Policy for Deficient Local Areas is Appropriate When Coupled With a Longer-term Planning Process

Decision 06-06-064 directed the Energy Division to "calculate reduced LCRs for those areas for which the CAISO has identified a deficiency in qualifying capacity

¹⁰ D.06-06-064, p. 38.

resources.”¹¹ The Commission adopted this “blanket waiver” treatment for deficient areas for 2007 on the basis that it is unreasonable to require LSEs to procure capacity that does not currently exist in the area. However, the Commission properly recognized that an indefinite extension of this practice could undermine the objective of resource adequacy to timely stimulate incentives for infrastructure additions where needed. The CAISO agrees that capacity deficient local areas cannot be ignored, but like many questions raised during the course of this resource adequacy proceeding, the solution is reasonably complex and multi-faceted.

The Commission’s adoption of the waiver for 2007 was an acknowledgment that infrastructure additions not already identified for 2007 in-service dates constitute impractical remedies to local area deficiencies for that compliance year. As part of the CAISO’s recently published 2007 CAISO Transmission Plan,¹² the CAISO has identified several transmission projects that will reduce the LCR need in currently capacity deficient local areas for 2008 and 2009. These projects are as follows:

- Sierra Local Area: Palermo 230/115 kV Transformer (2008), Rio Oso 230/60 kV Capacity Increase (2009), and Gold Hill-Clarksville 115 kV Line Reconductoring (2009).
- Stockton Local Area: Kasson-Lammers 115 kV Reconductoring (2008).
- Fresno Local Capacity Area: McCall 230/115 kV transformer (2008).

For those projects scheduled to be in-service in 2008, the precise amount of the LCR reduction is being assessed as part of the CAISO’s 2008 LCR Study. To the extent the deficiencies are not eliminated, a continuation of the existing waiver policy appears appropriate for the same reasons expressed in D.06-06-064.

¹¹ *Id.* at p.22.

¹² See, <http://www.caiso.com/1b6b/1b6bb4d51db0ex.html>.

Despite the progress reflected in the 2006 CAISO Transmission Plan, the question regarding how to best address capacity deficiencies remains. Increasing generation or transmission capacity, and to a lesser degree demand response, constitute more enduring, but potentially alternative, solutions to the capacity deficient area. Decision 06-06-064 correctly noted that a long-term transmission alternative should emerge from the CAISO as part of its proactive Grid Planning Process. However, how, or if, this transmission solution gets compared with viable generating or demand response alternatives remains a regulatory work in progress. The CAISO recommends that where a transmission solution is identified that is of the type generally included and approved through the CAISO annual transmission plan and currently constructed without Commission review, the transmission solution would simply proceed without further regulatory assessment (except for other necessary permits, reviews, etc.). Transmission solutions have the advantage that their costs are socialized through the CAISO's Transmission Access Charge among all entities, not simply Commission jurisdictional LSEs, who benefit from a reliable CAISO Controlled Grid. In contrast, what entity assumes responsibility for developing the generation capacity and how the costs of such capacity may be collected from other entities, Commission and non-Commission jurisdictional LSEs, that benefit from its presence constitutes a more uncertain question. To the maximum extent possible, the resource adequacy program should function largely in a ministerial or routine manner. Any determinations evaluating resource alternatives are likely to be more suitable to separate Commission proceedings.

D. LSE Waiver Process Should Not Preclude Assignment of CAISO Backstop Procurement Costs to LSE

The CAISO reserves its rights to comment on any proposals regarding modifications or refinements to the Commission's process for issuing waivers of resource adequacy procurement requirements. The CAISO clarifies, at this time, its expectation that any waiver issued to a specific LSE would not preclude assignment of responsibility and associated costs for any resulting CAISO backstop procurement to that LSE.

Under CAISO MRTU Tariff section 40.3.2, the CAISO assigns each Load Serving Entity a MW responsibility for each Transmission Access Charge Area (TAC Area) in which the Load Serving Entity serves load. After the CAISO has determined each LSE's particular assigned responsibility for Local Capacity Area Resources, the CAISO aggregates the obligations of Commission jurisdictional LSEs to obtain a collective obligation. This collective obligation will be communicated to the Commission. In determining any prospective cost responsibility for reliability procurement by the CAISO to be assigned to Commission jurisdictional LSEs, the CAISO will apply the allocation methodology adopted by the Commission. This allows the Commission flexibility to allocate the collective responsibility under a methodology other than historic contribution to the TAC Area's coincident peak, i.e., based on forecast coincident peak, or to only selective LSEs. Accordingly, should the Commission issue a prospective waiver to an LSE that is captured in the Commission's allocation methodology, then that LSE would be exempt from CAISO backstop procurement costs.

In contrast, if a waiver is issued to excuse a Commission-assigned procurement obligation of the LSE, the CAISO would treat that LSE as having a Local Capacity Area Resource deficiency for purposes of allocating potential backstop procurement costs to

the extent other Commission LSEs did not account for the deficiency and a deficiency, in fact, exists. Thus, if the conditions triggering CAISO backstop procurement occur - failure to satisfy ARC after permitting supplemental LSE procurement and taking other procured resources into consideration (see CAISO MRTU Tariff §§ 40.3.4, 40.3.4.1, and 40.3.4.2) – then that LSE would be charged first on a pro rata basis of each Scheduling Coordinator’s relative amount of their Local Capacity Area Resource deficiency capped by the quantity of the Scheduling Coordinator’s Local Capacity Area Resource deficiency. (CAISO MRTU Tariff § 42.1.8(a).)

E. Any Effort to Reflect the Effects of Load Migration on LCR Showings Must Ensure Continued Availability of the Resource and Be Administratively Manageable

The CAISO supports the Commission’s efforts to account for load migration to enhance the potential equity and accuracy in resource adequacy obligations among LSEs. However, the value of accounting for load migration must be weighed against the increase in transaction and administrative costs and complexity resulting from such efforts. With these principles in mind, the CAISO offers two suggested limitations on altering local capacity obligations based on load migration.

First, any true up or reporting of load migration must occur no more than quarterly. The CAISO believes this establishes an acceptable compromise between the interests of LSEs (limits exposure to 2 months) and the practical ability to administer and enforce any additional load migration provisions.

Second, the LSE accepting the new load must account for the load with a local capacity resource in the same quantity and local capacity area or sub-area as that withdrawn from the Resource Adequacy Plan of the LSE losing the load. This limitation

is necessitated by the original allowance for load pocket aggregation coupled with the CAISO's need to assess the ability of the collective portfolio of local capacity to satisfy ARC. The CAISO limits its backstop procurement authority to circumstances where the local capacity resources, whether because of an individual LSE deficiency or collective error, is unable to ensure compliance with ARC. To the extent a feasible collective portfolio is allowed to shift indiscriminately among local capacity areas within a TAC Area as a result of LSE load migration after the year-ahead showing, the greater the potential need for supplemental CAISO backstop procurement. CAISO backstop procurement to resolve collective errors admittedly reflects inefficiency in the cumulative portfolio and therefore should be minimized. Thus, each instance of CAISO backstop procurement to resolve a collective error after the year-ahead showing constitutes an overall less efficient and cost-effective portfolio. This is especially true where the receiving LSE continues to meet its Commission-imposed obligation through a local capacity resource in another load pocket because, in that circumstance, the costs of CAISO backstop procurement will be spread to all LSEs with load in the TAC Area.

However, this inefficiency could be eliminated if the LSE receiving the load assumes control of the resource, or portion thereof, from the LSE losing the load or, at a minimum, replaces the capacity in the same local capacity area or sub-area. Also, if the LSE receiving the new load does not accept the resource and an ARC deficiency exists, the cost consequences will be appropriately assigned by the CAISO where the LSE's failure to acquire the resource results in a violation of its Commission-imposed local capacity obligation.

III. Backstop Procurement

The Scoping Memo asks how the Commission's resource adequacy program may be refined to continue the progress made in reducing CAISO RMR procurement, while ensuring the CAISO obtains the necessary reliability services previously secured through RMR contracts. The RMR contract provides the CAISO with various attributes in addition to a general availability obligation associated with a conventional capacity product. In particular, the CAISO acquired under RMR 1) black start service, 2) voltage support, 3) dual fuel capability, 4) an ability to pre-dispatch the resource prior to the Day-Ahead Market, 5) Ancillary Services pre-emption, and 6) market power mitigation.

The need for some of these services vanish, or is greatly diminished, upon implementation of MRTU. The existence of an Integrated Forward Market ("IFM") in the day-ahead timeframe in MRTU greatly resolves, for example, the need for pre-dispatch rights to prevent inefficiencies related to infeasible day-ahead schedules and the resulting need for real-time redispatch as well as the need to be able to reduce a day-ahead generation schedule to accommodate required Ancillary Services. MRTU also incorporates enhanced market power mitigation provisions that largely address the ability of a resource in a constrained load pocket to exercise market power through its energy bid.

The CAISO intends to engage in efforts to isolate, or evaluate the viability of isolating, the remaining reliability services, such as black start, dual fuel, and voltage support, as separate products. However, those efforts are unlikely to come to fruition prior to MRTU implementation and certainly not by the time LSEs must commence procurement activities to meet 2008 reporting requirements. Similarly, the CAISO has

indicated an intent to develop with its stakeholders beginning in the second quarter of 2007 a replacement for the current Reliability Capacity Services Tariff (“RCST”), which will result in a FERC filing by approximately August 4, 2007.¹³ This schedule, coupled with the time and uncertainty associated with FERC review of any proposal, again reasonably precludes clarity as to the precise nature of any RCST replacement prior to 2008 reporting deadlines.

Notwithstanding this uncertainty, the CAISO makes the following observations on backstop coordination. First, the CAISO intends that any newly developed “backstop” mechanism or RCST replacement concentrate on providing protection against failures in “capacity” procurement as a more limited means than RMR to support resource adequacy. This is consistent with the CAISO’s view that in order to encourage a liquid tradable market to support the bilateral resource adequacy approach, the Commission should attempt to facilitate the creation of a generic capacity product that is as fungible as possible. Since black start, dual fuel, and voltage support cannot be provided by all capacity units, any effort to commingle these reliability services with the basic capacity product would run counter to this objective. Stated another way, it is also not efficient from an economic perspective to require all resources providing resource adequacy capacity to have these characteristics. Second, since the CAISO must have the means to obtain these reliability services, the CAISO will continue to rely in the near-term on its RMR authority to procure these services as necessary. The use of the RMR mechanism and its cost allocation methodology conforms to cost-causation principles in that the reliability services benefit all transmission customers. Third, the CAISO nevertheless

¹³ See, “Motion of the California Independent System Operator Corporation for Extension of time to Submit Compliance Filings,” *California Independent System Operator Corporation*, FERC Docket No. ER06-615-000 (Jan. 11, 2007).

encourages LSEs to self-provide the reliability services where practical and will work with Commission and LSEs to optimize this opportunity through the workshop process.

The foregoing leads the CAISO to recommend that the Commission extend for 2008 its current treatment of RMR resources and procedures for their integration into resource adequacy. The CAISO believes that the schedule developed by Commission staff performed well in 2006 and provided more than a sufficient basis for future coordination.

That said, the CAISO does believe that refinements to the process will be necessary in the future to fully achieve the mutual goal of the Commission and CAISO of eliminating RMR as a “capacity” procurement mechanism. A current obstacle to this goal is the policy of pre-allocating the assumed capacity from Condition 2 RMR units that are assumed to exist in the following compliance year based on the current year’s status. This creates a self-fulfilling prophecy that RMR Condition 2 Units will likely exist into the future year. While there may always be certain highly inefficient units necessary for reliability that cannot recover its fixed costs from the market, resource adequacy requirements should be structured to create an incentive for LSEs to develop new, more efficient resources that can generate sufficient revenue from the market to eliminate the need for CAISO intervention. The CAISO also reminds parties that RMR Condition 2 capacity is not equivalent to resource adequacy capacity because of use restrictions included in the RMR contract. However, as noted above, for 2008 the CAISO believes that the status quo should be continued.

Finally, because there is likely to be scenarios where the CAISO is required to extend an RMR contract to procure voltage support, black start, and/or dual fuel in 2008,

the Commission should require that qualifying resource adequacy transactions include a provision requiring the RMR unit to credit back to the procuring LSE either the fixed cost payment under the RMR contract or the capacity payment under the resource adequacy contract to avoid any potential for double-payment of capacity.

IV. Zonal Resource Adequacy Requirements

The Scoping Memo states that any zonal capacity proposals should:

- Specifically describe how requirements would be computed for 2008 and future years.
- Calculate what the zonal requirements are in MWs by zone for 2008 (by month or season, and for future years if possible).
- Address how responsibilities for a zonal resource adequacy requirement would be segregated between Commission-jurisdictional LSEs and non-Commission jurisdictional LSEs.
- Address how the Commission-jurisdictional zonal resource adequacy requirements would be allocated to LSEs.
- Address how LSEs would demonstrate compliance with a zonal resource adequacy requirement.¹⁴

The CAISO addresses the first two items by describing why zonal capacity requirements are necessary and what methodology should be employed. The last three items are addressed within the context of potential regulatory options to ensure the needed zonal capacity is available.

A. Zonal Capacity Requirements are Necessary to Address a Very Real Reliability Concern

The justifications that motivate local capacity requirements similarly underlie the need for ensuring a minimum level of zonal capacity. The Commission adopted local capacity requirements to compensate for existing transmission constraints that preclude reliance solely on imported energy to serve load and comply with desired reliability

¹⁴ Scoping Memo at 9.

performance standards in the constrained “load pockets.” In other words, the Commission recognized that some minimum level of generation must be located in constrained areas to meet demand and address defined operating requirements, including maintaining proper voltage and system stability in the event of specified contingencies.

The same concept applies with equal force at the zonal level. In California, each zone, i.e., NP 26 and SP 26, is nothing more than a larger load pocket - the transmission capacity into each zone by itself is insufficient to satisfy demand and identified operating requirements. Zonal requirements therefore “ensure that sufficient generation capacity (in MWs) exists within each zone so that transmission constraints between zones do not threaten reliability.” (CAISO LCR Technical Study at 17.)

The reliability concern resolved by zonal requirements is the ability of the ISO Controlled Grid to withstand the zone’s single largest contingency. The CAISO recognizes that the existence of capacity cannot itself ensure recovery from a contingency without shedding firm load, as required by WECC planning standards, unless that capacity is committed and capable of responding to dispatch requirements within necessary time limits. It is equally clear, however, that apart from a change in transmission topography the contingency could never be resolved without resort to firm load shedding in the absence of physical capacity, whether in the form of demand response or generation. Here, the CAISO’s methodology is consistent with resource adequacy by properly focusing on ensuring the proper quantity of capacity, not its operational characteristics. It does so by assessing the ability of the ISO Controlled Grid to address the contingency on peak when it is assumed that all available resources are committed.

The CAISO outlined its preferred methodology for determining zonal capacity requirements in its 2007 Local Capacity Technical Analysis, dated July 14, 2006.¹⁵ The CAISO continues to support this methodology and provides further detail on its components, which are (1) forecasted load, (2) import capability, (3) generation outages, and (4) single largest contingency in the zone.

Forecasted Load. Given that resource adequacy sets prescribed capacity thresholds, it should be expected that over time the quantity of installed capacity would equilibrate toward the level of the obligation imposed on LSEs. The CAISO, therefore, continues to assert that use of a 1-in-2 year peak forecast is unsuitable as an enduring system target. The CAISO's Grid Planning Standards require application of a 1-in-5 year extreme weather load level when conducting regional studies. As such, the system resource adequacy requirement should reflect, at a minimum, a 1-in-5 year peak forecast with the 1-in-10 year extreme weather conditions representing the most appropriate reserve standard for system resource adequacy purposes.

In performing the zonal assessment, the CAISO anticipates using coincident zonal load forecasts prepared by the CEC. The CEC has not yet published its 2008 coincident load forecasts. Accordingly, the CAISO is unable to definitively "[c]alculate what the zonal requirements are in MWs by zone for 2008 (by zone, by month or season, and for

¹⁵ As discussed further, the CAISO's zonal methodology focuses on peak demand conditions. At a minimum, therefore, the CAISO anticipates that the zonal requirement would apply during the "summer" peak season. The need for zonal capacity also exists in the off-peak season. However, currently both the import capacity allocation and the local capacity requirement are annual values based on peak load conditions. This uniformity throughout the year creates potential issues to extending a zonal requirement to the off-peak months, if the overall planning reserve margin is allowed to fluctuate on a monthly peak basis. A movement to two seasonal resource adequacy showings may address this practical concern, while generally simplifying administration of the resource adequacy program.

future years if possible)” at this time. The CEC has published draft non-coincident 1-in-2 year demand forecasts for California planning areas for 2008 as follows¹⁶:

Zone (Planning Area)	1-in-2 Forecast (MW)
PG&E	22,675
SCE + SDG&E	23,457 + 4,531 = 27,988

The CAISO will utilize these numbers for illustrative purposes only.

Import Capability. The import capability calculation attempts to maximize the quantity of imports into a zone. In order to prevent the zonal requirement from increasing the overall system planning reserve margin, the determination of zonal import capability must start by utilizing the aggregate transfer capacity from outside the CAISO Control Area into each zone calculated as part of the import capacity allocation process.¹⁷ The import capability value for zonal purposes will also include import capacity between CAISO zones over Path 26, which was not previously reflected in the import capacity allocation values.

The current CAISO published branch group values are based on the maximum historic imports into a zone during sample summer conditions. It is not a simultaneous feasibility study during the contingency event addressed by the zonal requirement. Thus, if the entire transfer capability of the internal path, e.g., 4000 MW on Path 26 N-S, is assumed available to address the no-coincident largest single zonal contingency, the zonal import capability is likely to overstate the actual realistic total import capability

¹⁶ California Energy Commission Staff Presentation on Staff Draft Electricity Demand Forecast Forms and Instructions (Oct 12, 2006), http://www.energy.ca.gov/2007_energypolicy/documents/2006-10-12_workshop/presentations/MARSHALL.PDF.

¹⁷ See, 2007 Total Import Capacity Values, <http://www.caiso.com/docs/2004/10/04/2004100410354511659.html>.

into the zone. The need to better coordinate the import allocation process with the zonal requirements must admittedly be addressed in the upcoming workshops.

Furthermore, in the case of SP26, the single largest contingency is the loss of the Pacific DC Inter-tie. A corollary to the foregoing is that the present proposal does not assess the specific changes to flows on individual branch groups following the loss of the Pacific DC Inter-tie, but rather accounts for the impact on import capacity as part of the contingency analysis.

Zone	Import ETC Sched + Allocatable MW ¹⁸	Path 26 (MW)	Total (MW)
SP 26	8598	4000	12,598
NP 26	4101	4000	8,101

Generator Outages. This value accounts for the generation capacity that may be unavailable within a zone due to either unforeseen forced outages or planned outages. The CAISO generally does not permit planned outages for generating facilities during peak demand periods; however, historically there have been a small unavoidable number of such planned outages. The CAISO believes an appropriate method to estimate generator outages is through examination of historic outage data on peak summer conditions at hour-ending 1600. Although the CAISO has not finalized its assessment of resource outages as part its 2007 Summer Loads and Resources Operations Assessment, the CAISO anticipates that the outage rate will be approximately 1,800 MW for SP26 and 1,400 MW for NP26 when looking at sample highest summer peak load days. It should be noted that inclusion of an outage component to the zonal methodology does not

¹⁸ From “2007 Total Import Capacity Values Table,” <http://www.caiso.com/docs/2004/10/04/2004100410354511659.html>.

constitute double-counting of outages in relation to the system planning reserve margin because the zonal requirement is a subset of the overall system resource adequacy requirement.

Single Largest Contingency. Generally, at peak load conditions, the loss of the Pacific DC Inter-tie constitutes the largest single contingency in SP26 of approximately 2,000 MW. The loss of the Pacific DC Inter-tie reduces flows on the line from 2,990 MW to 0 MW. Los Angeles Department of Water and Power is responsible for 30% of the lost DC schedules and therefore is expected to provide approximately 900 MW to compensate for the lost capacity. Moreover, by maximizing flows on Path 26, the CAISO is accounting for the fact that the flows on the California-Oregon Inter-tie will increase with the loss of the Pacific DC Inter-tie. In NP26, the largest single contingency is the loss of a Diablo Canyon Unit at 1,160 MW.

Based on the foregoing, the following table provides an illustration of the potential outcome of the zonal analysis and serves to provide parties with an approximate “order of magnitude.” The zonal capacity need can be met by any capacity located in the zone such that the quantity of local capacity procured by an LSE would also count towards satisfying the zonal need. However, as noted, further refinement to the analysis is necessary in order to determine a more definitive quantity of capacity needed to meet zonal needs.

Zone	Load Forecast (MW)	Generator Outages (MW)	Single Largest Contingency (MW)	(-) Import Capability (MW)	Total Requirement (MW)
SP 26	27,988	1,800	2,000	12,598	19,190
NP 26	22,675	1,400	1,160	8,101	17,134

B. Several Critical Questions Must be Answered to Determine the Appropriate Regulatory Structure for Satisfying Zonal Capacity Needs

Generally, one of two competing, but not mutually exclusive, paradigms can be adopted to ensure the CAISO has access to sufficient capacity to meet zonal reliability needs. One paradigm, which is consistent with the underlying premise of the Commission's resource adequacy program, mandates forward procurement by LSEs as an appropriate component of their reinvigorated obligation to serve. The other paradigm, which runs counter to these basic tenets of resource adequacy, pushes procurement closer to the operational timeframe usually through CAISO procurement mechanisms. While the choice may appear clear, several considerations may militate in favor of one paradigm in the short-term as a transition to the other.

First, the Commission's determination in D.05-10-042 to phase-out Firm LD contracts creates a potential cost impact of including a zonal capacity requirement for 2008 that must be fully assessed. In 2008, LSEs are permitted to reflect 25% of their resource adequacy demonstration as Firm LD contracts. Firm LD contracts are exclusive of import energy contracts. As a result, the imposition of a physical zonal capacity obligation over and above local capacity and imports would invariably degrade, if not eliminate, any value an LSE may currently derive from including Firm LD contracts in its resource adequacy portfolio. This concern dissipates in 2009 with the end of the Firm LD transition period, but may linger to some extent for the Firm LD Department of Water Resources contracts.

However, a fundamental purpose of the Commission's resource adequacy program "is to ensure sufficient incentives for new electric infrastructure investment, and

maintenance of necessary existing generation, by providing a revenue stream that is missing from today's capped energy markets to compensate generation owners for their fixed costs.”¹⁹ Accordingly, there is nothing inherently inconsistent with layering a capacity requirement on those resources that, in fact, currently supply energy to support a Firm LD contract but have no explicit resource adequacy commitment. It does admittedly alter the expectations of LSEs that rely on Firm LD during the permitted transition period.

It should be further emphasized that the perceived economic benefits of allowing a transition away from Firm LD contracts will be offset, in whole or in part, by any necessary short-term CAISO procurement to ensure satisfaction of reliability needs. Under MRTU, this may be accomplished through the Residual Unit Commitment (“RUC”) process, or, if approved by FERC, some other appropriate backstop authority. The current FERC-imposed must-offer obligation terminates. Since the resource procured by the CAISO to meet zonal reliability needs will not be considered a resource adequacy resource, the generating facility can bid and be paid up to the \$250 RUC availability bid cap.

A second consideration is the uncertainty regarding final import allocation rules and how this might impact an equitable distribution of the obligation and costs to meet the zonal capacity needs. Import allocation rules will likely influence the assignment of responsibility for zonal needs and its cost implications among LSEs. A quick example can illustrate the interrelationship. If import contracts are fully honored in the import allocation rules, except in the circumstance of branch group over-prescription, it may be possible that the combination of import allocation plus local capacity requirements satisfy

¹⁹ California Public Utilities Commission, “Capacity Markets White Paper,” August 25, 2005 at p.1.

the LSE's full planning reserve margin. Layering on a physical zonal capacity obligation may impose on that LSE a duty that results in procurement of capacity well in excess of its system resource adequacy requirement. Import allocation rules are currently the subject of a pending FERC proceeding (FERC Docket ER06-615, et al.) and may not be fully defined in time for incorporation into Track 1.

Notwithstanding the uncertainty associated with the import allocation rules, a reasonable argument can be advanced that the responsibility for the zonal capacity need can be allocated similarly to local capacity based on load share of all LSEs in the zone. The CEC will likely be able to divide, just as it has done for local capacity, the obligation between Commission jurisdictional LSEs and non-Commission jurisdictional LSEs based on load share ratios. The CAISO would be then responsible for determining an appropriate mechanism to apply load share-based zonal capacity obligations to non-Commission jurisdictional LSEs within its Control Area.

V. Demand Response

Whenever the CAISO has discussed demand response ("DR) in the context of resource adequacy, the CAISO has consistently asserted that the effective capacity of DR programs should be counted as a resource. Similarly, the Commission expressed in D.04-10-035 that, in most circumstances, dispatchable DR programs should be classified as resources that are eligible to count toward satisfying an LSE's resource adequacy requirement.²⁰ Accordingly, the CAISO believes it has a shared interest with the Commission in realizing the full value of demand response and in ensuring that demand response resources contribute effectively to the reliable operation of the grid.

²⁰ D.05-10-042 at p. 51.

A key tenant and policy objective of the Commission’s resource adequacy program is that resources be available to the grid “when and where needed.”²¹ Demand response resources, like all eligible resource adequacy resources, must satisfy this very important objective. The CAISO is concerned, however, that the Commission’s present practice of allowing all dispatchable demand response to count for resource adequacy purposes is over-inclusive, and that including these as resource adequacy resources runs counter to this central objective. Specifically, the CAISO feels strongly that reliability-based DR programs that are only available for dispatch in limited circumstances, i.e., only when the CAISO is *in* an emergency (Stage 2)²² are not sufficiently “available” to be considered a viable resource adequacy product. Additionally, the CAISO believes that the Commission should assess the performance of the DR programs in 2006 and count DR resources based on an expected value instead of a subscribed value.

A. Although Valuable, Reliability-based DR Programs Should Not Count for RAR As Currently Configured

Under MRTU, the CAISO’s Integrated Forward Market (“IFM”) clears the market at a demand level that is based on the components of i) self-scheduled and ii) bid in demand. As a result, demand may clear at a level that is significantly lower than the CAISO load forecast for the next day. The purpose of the Residual Unit Commitment (“RUC”) is to assess the resulting gap²³ between the day-ahead procurement and the

²¹ D.04-01-050 at p.10-11

²² For an explanation of the Stages of Electrical Emergencies, please refer to the document found at: <http://www.caiso.com/docs/2005/08/03/2005080315474812227.pdf>.

²³ This “gap” is a convenient but generalized way to express the concept of the RUC procurement target. More definitively, the RUC procurement target is based on the locational difference between the demand forecast for each hour of the next trading day and the hourly IFM energy schedule for that trading day. The RUC procurement target is not a single MW value as the word “target” implies. Rather, the RUC procurement target is the adjusted demand forecast distributed nodally over the Full Network Model.

CAISO demand forecast and to ensure that sufficient capacity is i) committed, ii) on-line and iii) available for dispatch in real-time, in order to meet the demand forecast for each hour the following day.²⁴ In essence, the RUC process is a reliability backstop that allows the CAISO to meet its reliability requirements.

RUC is limited in what can be considered in the day-ahead timeframe and ultimately, what can impact the RUC procurement target. From CAISO's perspective there are essentially two distinct categories of DR products: 1) DR that is triggered by a staged emergency event (which is an uncertain event contingency) and 2) DR that is triggered by price or by some other event that is known in advance. RUC cannot consider the contribution from the first category of DR, since such programs cannot be factored into the CAISO's day-ahead planning and forecasting process. On the other hand, RUC can consider demand response as described in the second category of DR, that is certain of being curtailed and will result in a lower demand forecast and, therefore, a lower RUC procurement target²⁵.

The important point is that the emergency/interruptible DR programs that are dispatchable when the CAISO is *in* an emergency *will not be considered* in RUC. The CAISO operates in a manner to reliably serve *all* forecast load. This includes the “non-firm” load associated with utility operated emergency/interruptible DR programs. Accordingly, the CAISO cannot lower the demand forecast in anticipation of a yet unknown emergency event and the associated emergency-load interruption.

²⁴ For instance, in this simplified example, if for a given hour the CAISO's day-ahead demand forecast is 40,000 MW, but only 38,000 MW of demand clears the IFM, then the CAISO will need to procure 2,000 MW of additional capacity through the RUC process. Emergency/Interruptible DR programs can never be considered in RUC since the CAISO must always ensure it can serve the non-firm load associated with these programs.

²⁵ Of course, this assumes that the second category DR programs are coordinated with the CAISO and are aligned with CAISO's operational timelines.

In D.05-10-042, the Commission expressed concern that “if the [emergency] programs do not qualify as RA capacity, ratepayers would have to provide additional funding for the equivalent capacity value of the programs.”²⁶ However, given that the currently configured emergency/interruptible DR programs will not change the CAISO’s demand forecast, and given that payments/credits are made to customers that participate in these programs, a potential double-payment is made by ratepayers for these emergency-only DR resources anyway - once to pay the DR program and again to cover the additional procurement that the emergency DR resource could not cover whether through RUC or otherwise. This double payment dilemma impacts the assumed resource adequacy value of the emergency/interruptible DR programs.

By these comments, the CAISO is no way trying to negate the value of the emergency/interruptible programs. Rather, the CAISO is interested in maintaining these emergency/interruptible resources for their specific and intended purposes, as they have value in their own right and have consistently proven highly dependable and beneficial to maintaining reliability. But because of when these resources are made available to the CAISO and the related cost consequence, the CAISO does not believe these programs, as currently configured, should count for RAR.

CAISO is mindful that the Commission has, just yesterday, established a new rulemaking “Regarding Policies and Protocols for Demand Response Loan Impact Estimates, Cost Effectiveness Methodologies, Megawatt Goals and Alignment with CAISO Protocols.”²⁷ This order notes that the rulemaking will consider modifications to DR programs needed to support CAISO efforts to incorporate DR into CAISO’s market

²⁶ D.05-10-042 at p. 52

²⁷ Agenda item 30, adopted at the January 25, 2007 full Commission hearing (“DR OIR”)

design protocols,²⁸ with the goal of preventing procurement of redundant supply side resources.²⁹ A primary issue in this regard is the alignment of IOU DR program triggers so that they are synchronized with CAISO wholesale market and operations under MRTU. The CAISO will coordinate an appropriate process pursuant to FERC's MRTU Order to facilitate development of these issues and the Energy Division's participation.

B. The Counting of DR Resources Must Be Based on an Expected vs. a Subscribed Value

Consistent with the fundamental objective of resource adequacy, resources that do count are actual and verifiable and support the Commission's RAR objectives. Thus, the CAISO would recommend the Commission assess the performance of the DR programs in 2006, publish the results, and count future DR participation in RAR based on actual/expected values vs. DR program "subscribed" values. In other words, only count capacity from DR programs that is real and verifiable and can rightly contribute to reliability.

VI. Conclusion

The CAISO appreciates the opportunity to comment on Track 1 issues and looks forward to productive Commission workshops.

Respectfully submitted:

/s/ Grant Rosenblum
Grant Rosenblum

²⁸ *Id.* at p. 1
²⁹ *Id.* at p. 8.

CERTIFICATE OF SERVICE

I hereby certify that I have served, by electronic and United States mail, Proposals of The California Independent System Operator Corporation on Track 1 Issues in Docket No. R.05-12-013.

Executed on January 26, 2007, at Folsom, California.

/s/ Charity N. Wilson

Charity N. Wilson

An Employee of the California
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