

**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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**REPLY COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION ON SECTION 1.A OF THE STAFF REPORT
REGARDING THE 2007 LOCAL CAPACITY TECHNICAL ANALYSIS**

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Dated: May 3, 2006

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In accordance with the scheduled established by Administrative Law Judge Wetzell in his e-mail ruling of April 13, 2006, the California Independent System Operator Corporation (“CAISO”) respectfully submits the following reply comments related to the CAISO’s 2007 Local Capacity Technical Analysis, filed April 21, 2006, as modified on April 28, 2006 (“2007 LCR Study”). The CAISO is not responding to all of the comments filed on this topic.¹ Instead, the CAISO responds to certain comments submitted on April 28, 2006 by The Utility Reform Network (“TURN”), Southern California Edison (“SCE”), Pacific Gas and Electric Company (“PG&E”), the City of San Francisco (“CCSF”), and Constellation NewEnergy, Inc. and Constellation Energy Commodities Group, Inc. (collectively “Constellation”).

¹ In particular, the CAISO is not responding to comments on zonal requirements. The CAISO anticipates thoroughly addressing zonal requirements in Phase 2 of this proceeding. However, the CAISO notes that the Independent Energy Producers Association poignantly noted that “the physics of the transmission system are not affected by parties’ perceptions and that if a zonal reliability requirement exists, ignoring it does not make the requirement go away.” (IEP at 2.) The CAISO strongly agrees with this sentiment.

I. TURN

- TURN's Concern Regarding Purported "LRA Creep" is Unfounded

TURN "is concerned that repeated LAR analyses may tend to expand Local RAR based on the natural growth of analysts' knowledge of the details [of] the system" resulting in "LRA creep." (TURN at 9.) The CAISO's intent is to produce a complete and technically sound LCR Studies that ensure reliability and identify the "right" MWs within the local areas. If an CAISO LCR Study is found to be credible and based on accepted engineering principles, then "LRA creep" is an unfounded concern that warrants no further consideration by the Commission.

- The Commission Should Reject TURN's Recommendation to Adopt a Category B Performance Standard

The CAISO cannot support TURN's recommendation that the Commission adopt Option 1 based on a Category B performance criteria level. (TURN at 10.) Instead, the Commission should elect Option 2 based on Category C performance criteria with the inclusion of suitable operational solutions identified by Participating Transmission Owners ("PTOs") and approved by the CAISO.

The argument that the Commission should establish the lowest service reliability level because the CAISO, at least in the short-term, has other means available to backstop any shortfall, e.g. through FERC MOO, RMR, RCST, is flawed. Under the proposed Reliability Capacity Services Tariff ("RCST") Offer of Settlement, only "if the CAISO cannot satisfy its operational needs, taking into account all resource operational constraints with resources subject to RAR, RMR, or RCST, then the CAISO may issue

MOWD to FERC Must-Offer Generators.”² The Commission is responsible for establishing the appropriate level of service reliability for its end-use customers. It follows that TURN believes the CAISO’s operational needs can supplant the Commission’s level of service reliability, even where the level of service reliability selected by the Commission ensures compliance with Applicable Reliability Criteria. The CAISO does not believe this is consistent with an approach where the CAISO honors the level of service reliability selected by the Commission or the Commission’s often repeated objective of minimizing CAISO procurement through such mechanisms as RMR and FERC Must-Offer.³ To TURN’s credit, TURN also does not advocate Category B as the long-term choice for the state (TURN at 10), but may, by its statement, misunderstand the respective roles of the CPUC and CAISO in setting the level of service reliability.

The Commission must be aware that the CAISO knows of no information or evidence to corroborate TURN’s belief that “there will be substantial CAISO backstop procurement in 2007 regardless of how the Commission acts to implement the Local RAR in 2007.” Frankly, the CAISO believes this statement misleads and is counter to conclusions the CAISO made in the Joint RCST Settlement filing.⁴ In this FERC filing, the CAISO determined that “there would be no forward Local RCST Designations for 2006 under the Settlement...as analysis of the showings of resources resulted in a relatively small level of Residual LARN for 2006 that does not merit any such Local

² *Indep. Enrgy Producers Assoc. v. Cal. Indep. Sys. Operator. Corp.*, Explanatory Statement in Support of Offer of Settlement, Docket No. EL05-146-000 (March 31, 2006) at 15.

³ This assumes an adopted service reliability level that meets, at minimum, the Applicable Reliability Criteria, primarily consisting of reliability standards as established by NERC and WECC.

⁴ *Indep. Enrgy Producers Assoc. v. Cal. Indep. Sys. Operator. Corp.*, Joint Reply Comments of the Settling Parties, Docket No. EL05-146-000 (April 28, 2006).

RCST Designation under the terms of the Settlement.”⁵ In this same way, the CAISO believes 2007 Local RAR outcomes will very likely be comparable with 2006 results.

Further, TURN’s position would seem to be arguing for yet another proceeding before this Commission to take up the issue of which service level reliability should be adopted in determining the LCR requirements. Not only is the record complete and sufficient for making that decision now, but TURN’s position would also engender the kind of regulatory uncertainty that the Commission set out to remove in this proceeding.

- TURN’s Concern Regarding AB 475 is Overstated

While not objecting to the Local RAR, TURN suggests that the Local RAR program “may face legal challenge under the provisions of AB 475.” (TURN at 12.) AB 475 refers to Public Utilities Code section 1822, which is implemented through Rule 74, et seq., of the Commission’s Rules of Practice and Procedure. TURN’s AB 475 concerns are overstated.

AB 475 does not establish a “no black box” requirement, as contended by TURN. In other words, it does not limit the Commission’s ability to rely on any particular piece of evidence, even one based on a complicated computer model and regardless of the description of the model included in the record. Rather, the rule prescribes the procedures and data that must be available, *upon request*, where a party relies on a computer model as the basis for testimony or an exhibit in any Commission proceeding, including a rulemaking or investigation proceeding. Therefore, TURN incorrectly implies that AB 475 constitutes a “substantive” rule and given that the CAISO is not aware of any Rule 74 request, the Commission should be confident in its ability to adopt a Local RAR for 2007 based on the 2007 LCR Study.

⁵ Id. at 3.

- TURN's Resource Classification Issues Do Not Impact the Conclusion of the 2007 LCR Study

TURN raises a concern that there are resource classification issues identified in the 2007 LCR Study that “must be clearly resolved before the final allocation of MW responsibility to CPUC LSEs occurs and before the final approved list of units available for contracting for Local RAR is completed.” (TURN at 15.) The CAISO believes issues regarding the classification of QF, Muni, and market resources are inconsequential and in no way hinder the Commission’s ability to decide the appropriate Local RAR or even to allocate the Local RAR. This is because the total Local RAR for a particular local area is developed based on physical need, not ownership status, and the Local RAR allocation should be done on a load share basis, which also is independent of unit classification. At the showing, the classification of resource will not matter so long as the LSEs’ portfolios achieve the Local RAR as authorized by the Commission. The CAISO provided unit classification information to help LSEs understand how units were treated in the CAISO’s 2007 LCR Study.

- The CAISO Agrees to Develop a List of Resources that Can Satisfy Local RAR

The CAISO intends to publish a list of resources by local area and sub-area, including the unit qualifying capacity, before June 2006.

- Clarification on Treatment of Self-Generation

TURN asks whether “self-generation” is treated in the 2007 LCR Study on the basis of net output or gross load and gross generation. (TURN at 21.) The CAISO modeled self-generation resources in the 2007 LCR Study on a gross load and gross generation basis. This is consistent with traditional load flow analysis practices and

should result in similar outcomes as if the resources were modeled as they are counted in the resource adequacy counting practices, i.e. net output.

II. DRA

- DRA Reaches the Correct Conclusion But Describes the Conclusion Inaccurately

DRA recommends the Commission adopt the N-1-1 criteria, “also referred to as Category B (Option 1)...” (DRA at 3.) The CASIO concurs with DRA’s recommendation. The DRA correctly recognizes that, as a general rule, the CAISO currently operates the system to the N-1-1 criteria and that adoption of a lower standard may degrade the level of reliability customers currently enjoy. However, the N-1-1 criteria is characterized in the 2007 LCR Study at Category C, Option 2, rather than, as perhaps inadvertently stated by DRA in its filing, as Category B, Option 1.

III. SCE

- Incorporation of the LCR Study into the CAISO’s Grid Planning Process is Appropriate to Allow PTOs to Identify Operational Solutions

SCE complained that the compressed timeframe of the 2007 LCR Study made it difficult to propose operational and/or transmission solutions which might mitigate reliability problems identified by the CAISO in the 2007 LCR Study. (SCE at 11.) The CAISO agrees that for 2008 and beyond a rational and agreed to timeline to produce the LCR Study and all of its key inputs is required. As the CAISO has previously stated, a single process to identify grid needs, including the elements of the LCR Study, is essential. As such, the CAISO believes the annual LCR Study must be incorporated into the Grid Planning Process and intends to take steps to achieve this in the next study cycle.

As part of the Grid Planning Process, PTOs can always propose operational solutions for the CAISO’s evaluation. Such a process would provide a clean cut-off date

for operational solutions the CAISO must consider in the LCR Study. This will also provide a process for other interested parties, including Commission staff, to review and comment on proposed operational solutions. However, the Commission must approve a Local RAR on the basis of the facts at hand and operational solutions developed and approved at this point.

- SCE Incorrectly Asserts that the CAISO Has Gone Beyond WECC-NERC Reliability Standards

The CAISO is very concerned about SCE's categorization of the contingency around the South of Lugo path as WECC/NERC performance criteria Category D. (SCE at 12.) SCE seems to casually suggest that "SCE should at least be allowed to drop loads or expand its existing Special Protection System ["SPS"]) to drop additional load in order to mitigate the problem... ." It should be noted that SCE already has an existing remedial action scheme ("RAS") to trip a significant quantity of load for critical contingencies impacting South of Lugo and appears to want to arm additional load. This specific SPS is fully incorporated into the 2007 LCR Study results. With regard to SCE's desire to drop load or expand its existing SPS to mitigate the contingency, the CAISO was not aware that SCE was interested in offering an alternative to procurement for this specific contingency. If SCE wanted to establish an "Option 3" solution for this contingency, then SCE should have provided the CAISO the necessary technical information to address its concern. Further, it should be noted that the CAISO believes that even if the CAISO concluded that a particular SPS or RAS is technically feasible and acceptable to the CAISO, to the extent it involves interruption of firm load, the Commission should be allowed to state its preference for mitigating the contingency through such operational solution or other means, including generating capacity.

SCE's comments the 2007 LCR Study goes beyond WECC-NERC reliability standards is puzzling given the South of Lugo path rating, as proposed by SCE and accepted by the CAISO, is based on the specific contingency studied. As the control area operator, the CAISO must stay within established path ratings regardless of whether the path is a WECC or a CAISO/PTO approved path rating, which is the case with the South of Lugo path. Once a path rating has been established, control area operators must stay within path limits at all times including during normal conditions (Category A) or when one element is out of service, e.g. a SONGS outage, which is a Category B event, not Category D. Up until this point, SCE has not indicated to the CAISO its desire to change its historical approach and the resulting path rating. The CAISO provides an opportunity for SCE to make such a proposal and have it fully reviewed during the annual CAISO Grid Planning Process.

Apart from these statements, the CAISO strongly supports and appreciates SCE's commitment to increase the South of Lugo path limit up to 6,100 MW as soon as possible. The 2007 LCR Study was based on the 6,100 MW path rating and, as such, already reflects the corresponding reduction of approximately 900 MW in the Local RAR for the LA Basin.

IV. PG&E

- The 2007 LCR Study Methodology is Consistent with the 2006 LCR Study

PG&E suggests that the CAISO somehow changed the LCR Study methodology between 2006 and 2007 and that "this apparent change in methodology and the potential for additional future shifts in Local Capacity Requirements (LCR) may affect the willingness of Load Serving Entities (LSEs) to enter into long-term contracts."(PG&E at

2.) Without additional detail, the CAISO finds this statement puzzling since the 2007 LCR Study methodology was absolutely consistent with the 2006 study. However, the Commission should address PG&E's concern by formally adopting the LCR Study input assumptions and an appropriate level of service reliability to ensure future methodological consistency.

- The Changes in Net Qualifying Capacity Values for the Greater Bay Area Reflect Use of Commission Formulas in the 2007 LCR Study

PG&E desired further explanation for the “sources of reduction in qualifying capacity [(“QC”)] for the Bay Area compared to the 2006 study.” (PG&E at 2, fn. 1.) As explained during the LCR Study presentation on April 26, 2006, the CAISO did not have Net Qualifying Capacity for most units prior to its 2006 LCR Study. Accordingly, for the Bay Area the CAISO used the values filed with the CAISO as the maximum output (P_{\max}) of each resource as the “Dependable Capacity.” In the 2007 LCR Study, gross Net Qualifying Capacity numbers were used. Because of the mix of QF and wind resources, the Net Qualifying Capacity values for the Greater Bay Area went down relative to the corresponding and previously used P_{\max} value (in particular, the Net Qualifying Capacity value for wind resources based on historical output was less than those units' CAISO P_{\max} value).

- The CAISO Can Accommodate PG&E's Information Requests in the Future

PG&E commented that the CAISO should “provide the PTOs with the base cases and the contingencies on which the CAISO relied to determine the local areas and to develop the related Local RAR, as well as information on the most restrictive contingencies.” (PG&E at 5.) The CAISO is happy to provide the base cases and contingencies to the PTOs given that the PTOs originally provided the base cases to the

CAISO for LCR Study purposes. PG&E also requests that the CASIO “provide ...the five- to ten- next-worst contingencies, ranked in order of generation requirement, to enable the CAISO and PTOs to establish priorities.” (PG&E at 5.) These are reasonable requests and clearly point to the need to weave the entire LCR process into the Grid Planning Process so that such issues can be resolved in a transparent and meaningful way. However, the Commission should understand that these requests may help in developing operational solutions for 2008, but should in no way impact or impede the Commission from making a decision on the local RAR for 2007.

- Sierra Is a Local Reliability Issue

PG&E questions whether or not the Sierra load pocket “is truly a local reliability issue or a congestion management issue.” (PG&E at 6.) The CAISO believes the Sierra load pocket is truly a local reliability issue. The CAISO performed a deliverability analysis that evaluated and established both in-state resource deliverability levels and import capability. As such, all imports (in the Sierra case, the Calif.-Oregon Intertie (“COI”)) and all resources in the local Sierra area were assumed on-line and at or near their deliverability limit. Given these inputs and based on the physics of the system, the Sierra area still requires local generation to meet applicable reliability criteria. Therefore, the Sierra area is a local reliability issue with local capacity requirements.

- The Commission Should Reject PG&E’s Recommendation to Limit Local Procurement Based on Effectiveness

PG&E comments that “there are local areas in which the LCR may necessitate the procurement of units that are only marginally effective [] in mitigating the critical facility loading” and, as a result, PG&E posits that it may not be “cost-effective to require the procurement of such minimally effective resources.” (PG&E at 6.) The CAISO

disagrees with this suggestion. PG&E wrongly presumes that unit effectiveness is somehow a sole criterion upon which to base procurement decisions. Albeit important and instructive, unit effectiveness is but a criterion among several and often proves transient, as its relevance is contextual, i.e. it is informed by a particular contingency derived from rational, yet pre-established study assumptions. As such, that unit's effectiveness is likely to vary depending on the contingency studied, so that a unit that PG&E presumes is not effective in resolving the loading under a particular contingency, may be effective in resolving another contingency and therefore is a valuable inclusion in the local capacity portfolio.

For example, a scenario is studied whereby a certain contingency produces an overload on a critical 500 kV tie line into a local area. A certain generator interconnects at the same substation as the "overloaded" 500 kV transmission line. In this scenario, the generator is likely highly effective in mitigating any overloads on the 500 kV line, e.g., 95% effectiveness. However, given a different scenario, that same generator may be minimally effective in resolving an overload on a critical 230 kV tie line that is electrically and physically located on the other side of the local area, e.g., 5% effectiveness. In other words, the impedance or "resistance" that a generator must push against to mitigate a particular overload is relative to the problem being studied and defines the unit's "effectiveness" in resolving a particular problem. PG&E's proposal would seem to suggest that the generation not be procured if the LCR contingency of greatest concern is the 230kv tie line.

Another important point about effectiveness factors is the more points of interconnection into a local area generally the less effective any particular unit will be in

resolving an overload on any one of the points of interconnection. Simply put, if a local area has one generator and two points of interconnection, the generator will have a 50% effectiveness in resolving an overload at either interconnection point (assuming equal impedance, etc.). However, if another local area has a generator and five points of interconnection with equal impedance, the generator will only have a 20% effectiveness in resolving an overload at any one of the five points of interconnection. Clearly, this second local area benefits from more transmission lines to serve the load. Yet, that physical reality does not provide any basis to say generators that are “marginally” effective should not be procured. In summary, the CAISO believes it would be imprudent for the Commission to decide that LSEs should not procure from so-called marginally effective units since such a suggestion ignores the contextual nature of effectiveness factors.

V. CCSF

- CCSF Incorrectly Asserts that Its Import Quantities Were Ignored

CCSF complains that its 200 MW imported into the Greater Bay Area from the Hetch Hetchy hydroelectric plant, and the related exiting transmission contract (“ETC”) rights, were excluded from the study. This is an inaccurate characterization and it misconstrues the physical attributes of the transmission grid captured by the 2007 LCR Study. From a technical standpoint, the CAISO must have a minimum amount of capacity within a load pocket to allow the maximum amount of imports into the area due to the transmission constraints that geographically define the local area. In other words, the 2007 LCR Study does take into account energy imported into the load pockets and identifies the capacity requirement that allows the energy to be imported and while

maintaining grid reliability. Accordingly, the CAISO has not ignored CCSF's import practices, which are reflected in CCSF's financial ETC rights. ETCs have no physical meaning for purposes of the CAISO's 2007 LCR Study.

- Publicly Owned Utilities Were Not Precluded from the Process

CAISO is unaware on any basis for this exaggerated claim. The Commission staff is well aware that the CAISO provided an open forum, under CPUC notice guidelines, to inform all parties as to the substance and engineering methodologies used by the CAISO in its performance of the LCR study. A number of representatives from Publicly Owned Utilities were in attendance or on the teleconference line. These representatives participated by asking questions of the CAISO staff and responses were provided to these questions.

VI. CONSTELLATION

- Most Operational Solutions May Be Taken “Off the Top” of the Local RAR, Except for Load Shedding Schemes That Should be Reviewed by the Commission

Constellation claims that a “lack of clarity” surrounds the CAISO's proposed use of “operational solutions” in determining local capacity requirements. (Constellation at 6.) This purported lack of clarity appears to arise largely from Constellation's own confusion. Contrary to the implication in Constellation's comments, operational solutions are generally not “resources.” The CAISO, in fact, never uses this term. Operational solutions involve actions by operators, either manually or automatically, that can be taken to adjust the system after the loss of the first element to prepare for the loss of the second element and serves to obviate the need for capacity.

These operating solutions can take the form, for example, of moving load from one substation to another through switching flows to distribution feeders, reconfiguring

transmission lines by opening circuits, and special protection schemes that remove pre-identified load from service. Accordingly, the CAISO believes it is appropriate to separate operating solutions between those that involve load shedding and those that do not. Moreover, operating solutions are not, as erroneously stated by Constellation, “re-evaluation of line ratings” or transmission equipment upgrades. Rather, both of these elements are incorporated by the CAISO as inputs into the underlying base-case analysis as part of the physical characteristics of the transmission system being studied.

With the above clarification as context, several points should be made in response to Constellation. First, since operating solutions are not capacity (even those involving load shedding), there is no need to subject such solutions to qualifying procedures similar to those of resource adequacy resources. Indeed, it would be nonsensical. Nevertheless, the CAISO does believe, consistent with Constellation, that the Commission is the appropriate entity to determine whether the interruption of firm load should substitute for generating capacity or other demand response products in meeting local reliability. The CAISO agrees with Constellation that utilizing involuntary load shedding as an acceptable means of achieving resource adequacy “seems wholly inappropriate.” (Constellation at 8.)

Second, and related to the first, the feasibility of operating solutions is within the province of the CAISO and its Participating Transmission Owners as the operator and owners, respectively, of the transmission system. As noted above, the CAISO recognizes that after the CAISO has determined the “feasibility” of an operating solution involving load shedding, such as an SPS, the Commission should assess the acceptability and relative cost/benefits of interrupting customer service instead of relying on generating

capacity. However, for all other operating solutions, the CAISO's feasibility determination is sufficient to address Constellation's concerns regarding "how service reliability may be impacted with the use of the so-called operational [solutions]."

(Constellation at 9.)

Third, Constellation is concerned about the "equity" of allowing alleged "transient" operational measures to make "off the top" reductions in overall capacity that may displace generation or demand resources, "especially where there has been no competitive assessment of whether operational resources are more economic or provide a higher value capacity product than more standard dispatchable capacity resources."

(Constellation at 9.) Again, other than load shedding solutions that have an economic effect, operational solutions involve minimal costs. Accordingly, there is no potential inequity and it is appropriate for the CAISO to incorporate such solutions to reduce the level of capacity required in any particular load pocket to the economic benefit of California consumers.

- Constellation's Questions Regarding CAISO Backstop Procurement Are More Appropriately Considered in the Context of CAISO's FERC Filings

Constellation supports the CAISO's recommendation that the Commission adopt the "Option 2" level of local capacity, but asks (1) how the CAISO's backstop procurement authority may be affected by a Commission determination that a lower level of capacity, i.e., "Option 1"), is appropriate and (2) how will the costs of such procurement be allocated. The CAISO agrees that answers to both of these questions are fundamental. However, the CAISO maintains that neither question is appropriate for resolution in the context of the current phase of this proceeding before the Commission. Rather, the CAISO's procurement authority and the cost allocation of that procurement

constitute CAISO rates, terms, and conditions subject to review, consideration, and approval by FERC. In fact, the scope, procedures, and cost allocation rules regarding the CAISO's backstop procurement authority are before FERC in several pending proceedings.⁶

That said, the CAISO recognizes that the Commission possesses the primary role in resource adequacy and in defining the level of service reliability customers of its jurisdictional LSEs should expect. The CAISO is therefore working with the Commission to delineate the agencies' respective roles in a manner that respects the Commission's assessment of the relative costs and risks of various service levels, while ensuring that the CAISO can comply with its responsibility to maintain the integrity of the grid.

Dated: May 3, 2006

Respectfully Submitted:

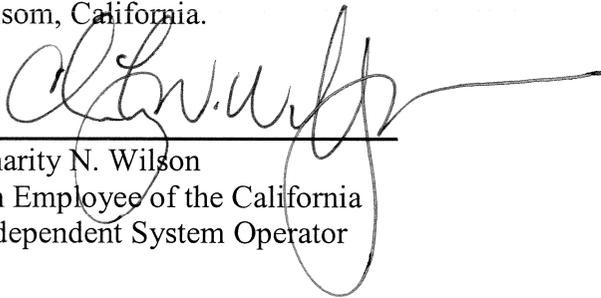
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⁶ See, *California Independent System Operator Corporation*, FERC Docket No. ER06-723-000 (Interim Reliability Requirements Tariff); *Independent Energy Producers Association v. California Independent System Operator Corporation*, EL05-146-000 (Reliability Capacity Services Tariff); *California Independent System Operator Corporation*, ER04-835-000 (CAISO Tariff Amendment 60); and *California Independent System Operator Corporation*, ER06-615-000 (Market Design and Technology Update Tariff)

CERTIFICATE OF SERVICE

I hereby certify that I have served, by electronic and United States mail, Reply Comments of The California Independent System Operator Corporation on Section 1.A of the Staff Report on the 2007 Local Capacity Technical Analysis in Docket No. R.05-12-013.

Executed on May 3, 2006, at Folsom, California.



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