# Written comments with CAISO reply
# Submitted after the
# April 10 Stakeholder Meeting regarding the
# 2009 Local Capacity Requirement (LCR) Results

**COMMENTS OF THE ALLIANCE FOR RETAIL ENERGY MARKETS**

**ON THE APRIL 2, 2008 REPORT --**

**"2009 LOCAL TECHNICAL ANALYSIS,**

**DRAFT REPORT AND STUDY RESULTS"**

The Alliance for Retail Energy Markets (AReM) has reviewed the CAISO's draft report on 2009 Local Capacity Requirements and provides the following comments.

Added Discussion About Changes From the Last Report – AReM finds the report to be much improved with the added paragraph for each Local Capacity Area (LCA) describing the changes since the 2008 study. This discussion is particularly helpful for those reviewers who are not experts in transmission planning.

CAISO response: The CAISO will continue to incorporate stakeholder suggestions in the report in order to make it easier to read or understand.

Notification of Changes to Local Capacity Areas (LCAs) – It is a requirement that load-serving entities (LSEs) plan and procure in advance of the compliance year. As a consequence, changes to the number or geographic boundaries of LCAs create additional risks and costs for LSEs. New LCAs, such as the emergence of the Big Creek/Ventura LCA for the 2008 compliance year, can significantly increase costs and create a scramble for LSEs to meet the new requirements. At the same time, the elimination of an LCA could leave LSEs holding expensive local capacity that is no longer needed. Similarly, a change to the geographic boundary of an LCA could leave LSEs holding local capacity that is suddenly outside of the new boundaries. Therefore, as a way to provide for reasonable

planning by the LSEs and regulatory stability, AReM requests that the CAISO add a brief section to the final report that addresses the CAISO's best estimate of changes to the existing LCAs during the next 1 to 5 years. For example, at the April 10th meeting, Catalin Micsa of the CAISO said that he expected no change to the number of LCAs in the future. AReM requests that, at a minimum, these considerations and this statement be added to the report.

CAISO response: As the CAISO has previously noted, and consistent with stakeholder comments, the CAISO believes it is appropriate to divide into two separate studies the next year LCR assessment and the Long-Term LCR assessment. This sequential approach facilitates the current CPUC and other LRAs one-year resource adequacy procurement and compliance requirements. The CAISO will consider your suggestion in the Long-Term LCR report.

Changes to Zonal — While the report includes a section describing "zonal needs" (pp. 23-24), no information is provided about changes to the Path 26 transfer capability. An LSE's increased or decreased ability to meet the zonal requirement is directly affected by the Path 26 transfer capability (and the associated allocation process). Therefore, AReM requests that the CAISO add the following to the final report: (a) a brief discussion of how the zonal needs have changed since the 2008 study; and (b) a section discussing changes to the Path 26 transfer capability since the 2008 study.

CAISO response: Suggestion included in the final 2009 LCR Report.

2008 Backstop Procurement — We agree with the request from Mike Jaske (representative of the California Energy Commission) at the April 10th meeting to add an overview and discussion about the extent to which the CAISO needed to procure backstop Resource

Adequacy (RA) resources (if any) as a result of the annual RA compliance showings made by load-serving entities for the 2008 compliance year.

CAISO response: For 2008, the CAISO's intent is that its authority to engage in forward backstop procurement will transition from the Reliability Capacity Services Tariff to the Transitional Capacity Procurement Mechanism to the Interim Capacity Procurement Mechanism. Each of these procurement mechanisms includes a reporting obligation (See, CAISO Tariff Section 43.6 (RCST), 43.6 (TCPM), and 43.5 (ICPM). These reports will be publicly available in accordance with the CAISO Tariff and therefore publication of the information in the LCR study is unnecessary.

Operating Solutions — The final report should identify in which LCAs the CAISO approved operating solutions to reduce the LCR, including a brief description of each such operating solution. Also, the report should note if particular operating solutions were applied for a LCA in 2008 but not carried over to 2009 and why this change occurred.

CAISO response: Suggestion included in the final 2009 LCR Report. All the operating solutions used in 2008 are carried over to 2009.

Other Projects that Reduce LCRs – At the April 10th meeting, the CAISO explained that Special Protection Systems (SPS) are considered to be new transmission projects and, therefore, are not included as operating solutions that reduce the LCR. Please add this explanation to the report. Further, please describe briefly whether the Participating Transmission Owners (PTOs) have proposed any new SPS or Remedial Action Schemes (RAS) that may reduce the LCRs in the future, what their estimated costs would be, and how they will be considered in the CAISO's transmission planning process.

CAISO response: Suggestion included in the final 2009 LCR Report.

Objective to Minimize LCRs — Mike Jaske mentioned at the April 10th meeting that PG&E's transmission planning includes a specific objective to "minimize LCRs." AReM requests that the report identify whether all the PTOs have this explicit objective included in their grid planning and to what extent the CAISO has incorporated a directive to minimize LCRs into its own Grid Planning Process and how such an objective or directive is incorporated into developing priorities for transmission planning.

CAISO response: The CAISO's Transmission Planning Process includes an explicit directive to promote the economic efficiency of the CAISO Controlled Grid, including evaluating the benefits of transmission projects that reduce capacity requirements. The CAISO will perform Economic Planning Studies on an annual basis that include the opportunity to evaluate the feasibility of reducing LCR through transmission upgrades. (See proposed CAISO Tariff Sections 24.2 and 24.2.2.2.) As the planning entity, these requirements also apply to the PTOs.

*Submitted:*

*April 21, 2008*

**CAISO 2009 Local Capacity Technical Analysis**

**Draft Report and Study Results**

**BAMx Comments**

The CAISO is to be commended in improving the LCR stakeholder process and increasing the transparency of the LCR technical studies process that will result in LCR procurement obligations by load serving entities (LSEs). We particularly appreciate the earlier start for the LSE procurement year of 2009 with the first stakeholder discussions conducted on October 11, 2007. Additionally, the consistency of the report's treatment of load pockets and listing of generators available along with effectiveness factors for each sub pocket was particularly helpful. We look forward to additional improvement in the overall procurement process and greater transparency in the completion of the LCR technical studies.

The following are comments offered by BAMx[1] on the CAISO draft study results for the 2009 Local Capacity Requirements (LCR) presented at the April 10, 2008, stakeholder meeting, and on the CAISO *2009 Local Capacity Technical Analysis Draft Report and Study Results* (2009 LCR Draft Report or LCT Study for Local Capacity Technical Study) posted on April 2, 2008.

Effectiveness Factors

1. On page 1 of the 2009 draft LCT Study the following was stated.

1 BAMx, the Bay Area Municipal Transmission group, consisting of Alameda Power & Telecom, City of Palo Alto Utilities, and City of Santa Clara, Silicon Valley Power.

"In this regard, the 2009 LCT Study also provides additional information on sub-area needs and effectiveness factors (where applicable) in order to allow LSEs to engage in more informed procurement."

Additionally, on page 6 in reference to load pocket the following was stated.

"This LCR Study has been produced based on load pockets defined by a fixed boundary. The CAISO only publishes effectiveness factors where they are useful in facilitating procurement where excess capacity exists within a load pocket."

While the report in the summary of results by local areas beginning at page 24 goes into some discussion and listing of generation available in each sub-pocket and their effectiveness factors, we urge the CAISO to further improve the report for LSEs with a local procurement obligation by expanding the discussion on what counts and does not count in meeting a local requirement. For example, if a LSE's procurement of resources outside of the defined fixed boundary of a load pocket are effective at relieving the identified problem, the report should discuss this situation and the CAISO treatment of such resources as to whether it would be credited or not toward meeting that local procurement obligation.

CAISO response: In accordance CPUC Decision 06-06-064 at Section 3.3.7.4, only units within the local areas count toward meeting the local procurement target. There may be some units outside the boundary that have a positive effect on certain local area contingencies; however, the outside units also have negative effects toward other local constraints. Overall, the units within the area push back on all or most of the local constraints whereas units outside do not and therefore have been excluded from eligibility for satisfying LCR.

2. For the Greater Bay Area (GBA), the following statement was made on page 57. For most helpful procurement information please read procedure T-133Z effectiveness factors – Bay Area at: http://www.caiso.com/docs/2004/11/01/2004110116234011719.pdf However, upon a review of Operating Procedure T-133Z, the document displays the GBA generators by group (some of which are located beyond the fixed defined boundary for the GBA) and their effectiveness in relieving key transmission line overloads, not the critical contingency cited as driving the GBA LCR needs, i.e. reactive margin and voltage support. We urge the CAISO to expand on the discussion in the report on the capability of resources to meet the reactive margin requirement.

CAISO response: For reactive margin, voltage and dynamic instability no effectiveness factors will be given since they are non-linear parameters and they will not be very useful to LSE procurement.

Operating Solutions

1. Throughout the LCR technical studies and local RA procurement process, discussions have occurred with respect to proposed operating solutions or operating procedures that would relieve the identified criteria violation and how such solutions or procedures may reduce the LCR needs. In fact opportunities are provided in the overall process for proposing operating procedures to be submitted to the CAISO and for the CAISO to review and validate these operating procedures. It is our understanding that this was the purpose of the initial 2009 LCR study results presented at the March 4, 2008, stakeholder meeting and the further study results presented at the April 10, 2008, stakeholder meeting. In fact, the overall schedule provides that any operating solutions must be submitted to the CAISO by March 18, 2008. However, during the April 10, 2008,

stakeholder meeting, the CAISO stated that no operating procedures were submitted based on the initial LCR study results presented at the March 4 stakeholder meeting. The draft 2009 LCT Study at page 14 stated that all Special Protection Schemes (SPS) were assumed in the technical studies. During the April 10, 2008, stakeholder meeting the CAISO stated that all SPS must be submitted to the CAISO for approval as part of the grid expansion planning process. Thus, submission of SPS would not coincide with the LCR process in reducing the LCR needs. While the draft 2009 LCT Study discussed performance criteria in Section II. E., including SPS and operating procedures, we encourage the CAISO to further delineate the process of adopting operating procedures and/or SPS for reducing the LCR requirements. Please expand upon the subject and specifically explain the distinction between operating procedures and SPS on their use in relieving the identified constraint and the timing needed to reduce the LCR requirements for a year in question. In general, this aspect of the studies remains mostly opaque to the stakeholders as a whole.

CAISO response: Usually operating procedures are changes to system configuration like opening or closing of breakers, transferring load to other substations etc. that can be done in a reasonable amount of time (preferably 30 minutes or less) with no additional capital costs. As such, operating procedures do not need to be approved by the CAISO, but rather can simply be reviewed and implemented. New SPS assumes some small capital costs and the CAISO must approve the project similar to any other new transmission project the costs of which will be included in a PTO transmission revenue requirement. This approval can be concurrent with the LCR study or it may occur at anytime during the year in accordance with the transmission planning process.

2. It appears that the CAISO is perhaps in a better position to propose operating procedures to reduce the amount of LCR procurement obligations and costs of such procurement by LSEs. It now appears the CAISO believes that only transmission owners/operators have the responsibility to propose operating procedures. The CAISO could and should propose operating procedures that could be further vetted with stakeholders, including transmission owners/operators, that would further reduce the procurement obligation and costs to LSEs by reducing the LCR needs without unduly sacrificing reliability. We urge the CAISO to further explore this approach and take a proactive role in proposing such operating procedures. Additionally, we urge the CAISO to further increase the transparency of proposed operating solutions, whether such operating procedures have been proposed and accepted or rejected by the CAISO. If none are proposed, provide an explanation of the likely reason. This would further stakeholders involvement and participation in this key issue which may allow further reduction in LCR needs.

CAISO response: The CAISO is actively working with the PTOs and stakeholder to develop new operating procedures. The fact is that their number should decrease in future years because, for the most part (unless new transmission projects are scheduled to become operational), the contingencies and problems are the same from year to year, and it is unlikely that new operating procedures will be found to correct long-standing problems.

Greater Bay Area LCR Setting Contingency

1. In both the LCT Study and April 10 presentation for the Greater Bay Area, it was stated that the GBA reactive margin was the LCR setting limitation for the area. Slide 7 of the presentation stated that last year's limitation was the Tesla #6 500/230 kV bank which

has been re-rated. Since re-rates may be the most cost effective and quick way to mitigate a reliability violation, analogous to an operation procedure, please describe and include in the final report whether re-rates were investigated for each local area and sub areas for each of their respective LCR setting contingencies.

CAISO response: Re-rates are always investigated as a fast and inexpensive way of mitigating any type of reliability or LCR issues. Not all of them are successful or fast to implement and some require small expenditures. Thus, they are always pursued as a low cost alternative.

2. Reactive Margin as Overall GBA LCR Setting Limitation: As described in both the presentation at Slide 7 and the draft LCT Report at pages 56-57, the GBA area reactive margin was the limiting contingency establishing a LCR of 4791 MW for 2009. While the LCR Study at page 18 describes briefly the planning criteria and lists the Reactive Margin Criteria under Post Transient Load Flow Assessment, this is the first time to our knowledge that such limitation has set the LCR requirements. To increase stakeholder understanding of the technical studies, we urge the CAISO to expand the discussion in the report on the use of reactive margin in setting the LCR needs. Please provide a description in the report expanding on the studies conducted and the assumptions that went into the studies. Were operating solutions investigated? In the studies run to determine the reactive limit, what were the status of reactive devices such as the reactors at Pittsburg, Tesla and reactors in series with the Jefferson-Martin and San Mateo-Martin cables?

CAISO response: Reactive margin requires convergent power flow solutions for the same single contingency (including G-1L-1 based on the CAISO criteria) for base cases with 5% increase in load (and/or transfer) or a 2.5% increase in load (and/or transfer) for a double

contingency. Bay Area had the same limitation for year 2008 as well (please see report on the CAISO web site) along with the re-rated Tesla Bank problem. Humboldt has been limited for many years based on reactive margin. Operating procedures were investigated and none was found feasible. All reactive devices, if available, were used.

3. Additionally, the report should be expanded to provide a discussion regarding the next contingency beyond the reactive margin limitation that sets the LCR level for the GBA. This would provide more information for LSEs to plan for longer term procurement.

CAISO response: The CAISO will take your suggestion under advisement for future long-term LCR studies. This study only refers to year 2009 and at his point in time there is no project to reduce the most limiting need. The CAISO will finish the 2011-13 Long-Tem LCR studies before the end of the year and more information will be set forth in that report.

Other LCR Related Issues

1. The report should go beyond the technical studies that establish the level of LCR for each load pocket to provide an overview of the entire local RA process administered by the CAISO. For example, the CAISO Summary of Findings presentation of April 10, Slide 7 gives an overview of the 2009 LCR process beginning with the October 11, 2007 stakeholder kickoff meeting to the July 15, 2008, milestone where the CAISO would allocate the 2009 LCR obligations to LSEs. Additional key milestones beyond the July 15, 2008 milestone for the LSEs' RA showings, such as, the CAISO review of such RA showing, reporting of local RA deficiencies by the CAISO, opportunities for LSE to procure such identified deficiencies, and finally, CAISO backstop procurement would greatly assist LSEs in planning their local RA procurement obligations. We urge the

CAISO to include such a description and timeline in their final report for the 2009 LCR requirements.

CAISO response: The CAISO agrees that a comprehensive regulatory discussion would be of value. At this time, the CAISO refers interested entities to its Business Practices Manual for Reliability Requirements (http://www.caiso.com/17ba/17baa8bc1ce20.html), documents submitted in FERC Docket No. ER08-760 regarding the Transitional Capacity Procurement Mechanism (http://www.caiso.com/1f98/1f98d18a29af0.html), and the documents submitted in FERC Docket No. ER08-556 regarding the Interim Capacity Procurement Mechanism (http://www.caiso.com/1f67/1f67d93f53100.html).

2. The CAISO should include a discussion of the treatment of out of load pocket area resources for satisfying LCR obligations. While we recognize the basis for the decision to fix the existing load pocket boundaries, we urge the CAISO to include such a discussion in the final report after describing current treatment of resources (NQC) not within a load pocket requested in our first comment above under Effectiveness Factors, and a process for reconsidering such treatment. It appears that under the current assumption of fixed load pocket boundaries, if a generator was located outside of a local area and delivered only to a bus within a local area via an "express feed" or "gen-tie," it would not be eligible to provide LCR service even though it is exactly equivalent electrically (except for adjustments for losses) to a generator located next to the substation where the "gen-tie" connects. Where can this issue be considered/re-considered by the CAISO?

Thank you for the opportunity to provide comments on the CAISO draft 2009 LCT Study Report and presentations made by the CAISO on April 10, 2008, on its tentative 2009 LCR results. We look forward to improvements to the final report as requested in these

comments and the CAISO responses concerning issues related to the 2009 LCR procurement.

CAISO response: See answer above in pages 7 and 13. Resources are considered within the local area if they connect to substations within the cut plain fully described in the LCR Report. Therefore the length of the gen-tie makes no difference in the study results. Changing in system topology due to new transmission and/ or generation projects may result in a redefinition of local area boundaries.

**Stakeholder Comments**

**Subject: 2009 Local Capacity Requirements**

**Study Results**

In accordance with the California Independent System Operator's ("CAISO's") request at its Local Capacity Requirement ("LCR") stakeholder meeting held April 10, 2008, Southern California Edison Company ("SCE") hereby submits its comments on the draft 2009 LCR Study ("draft Study") results issued by the CAISO.

## I. Introduction

SCE appreciates the opportunity to comment on the draft Study results so that the CAISO will have the benefit of stakeholder input on its LCR analysis prior to completion of the final 2009 LCR Study.

SCE also appreciates the efforts of the CAISO to improve the consistency and transparency of the LCR Study process. However, SCE believes that there is a continuing need for greater clarity and consistency in those instances where new criteria are incorporated or new contingencies are applied for purposes of the LCR Study. In most cases where the CAISO utilized new criteria or contingencies in the draft Study (by comparison to the 2008 LCR Study), SCE was not notified of these changes prior to the publication of the draft Study Report. Thus, SCE had no opportunity to consider the new criteria and develop alternative solutions to mitigate local constraints before the draft Study was released. Indeed, SCE has only a limited time to process this information and develop any proposed operating solutions prior to the issuance of the final 2009 LCR Study on May 1, 2008.

In order to enable SCE to better understand and respond to LCR Study findings for future studies, SCE requests that the CAISO provide stakeholders with all relevant information (*e.g.*, outage information, voltage stability, reactive margin analysis, list of Contingency Criteria, etc.) related to the LCR Study findings prior to publication of the draft LCR Study Report. SCE also requests that the CAISO notify stakeholders of any key preliminary findings for the LCR Study at least two weeks before the issuance of the draft LCR Study Report. If the CAISO makes any changes to such relevant information or key findings after a draft LCR Study Report is published, SCE requests that the CAISO notify stakeholders at least two weeks prior to the issuance of the next LCR Study Draft Report (or Final Report, as the case may be). By providing this additional information and improving the transparency and clarity of the LCR Study process, SCE will be able to validate the results of the LCR Study and work with the CAISO to develop and implement timely and effective solutions to the concerns identified by the LCR Study.

CAISO response: The CAISO follows the agreed upon schedule for the 2009 LCR Process. The results were timely released on March 4, 2008, except for the El Nido sub-area because the results were embedded within the Barre sub-area. The CAISO will bring any new LCR findings to the PTO and Stakeholder attention as soon as they become available.

## II. 2009 Draft LCR Study: LA Basin Sub-Area

### A. El Nido Sub-Area

#### 1. *New Results*

The draft Study states that the most critical contingency for the El Nido sub-area is the loss of the La Fresa-El Nido #1 and La Fresa-El Nido #2 230 kV double circuit tower

line, which could result in a thermal overload of the La Cienega-La Fresa 230 kV line.[2] The draft 2009 LCR Study indicates that the LCR need with the El Nido sub-are will be 297 MW, assuming the firm load shed can be performed manually within 15 minutes after the contingency; if this is not possible, the LCR will become 347 MW.[3] At the April 10 stakeholder meeting, the CAISO indicated that these results are driven by load growth and modeling an outage of all El Segundo units. It was explained that there is also a conductor rating limitation (with a sag clearance restriction on the line).

**2. *Modeling & Criteria Issues***

The CAISO's modeling of an outage of both El Segundo units in order to arrive at the local capacity requirements for the new El Nido sub-area is a new approach to identifying a sub-area that has not been applied in prior LCR studies. While SCE does not necessarily dispute the CAISO's findings regarding this sub-area, it remains unclear to SCE what specific circumstances triggered the creation of the El Nido sub-area. Moreover, the existence of this sub-area was identified late in the draft Study development process; it was identified by the CAISO for the first time at the March 25 CPUC workshop for proceeding R.08-01-025. Given the potential financial burden to SCE of procuring resources to meet LCR requirements in this sub-area, SCE would appreciate further information regarding the creation of the new El Nido sub-area.

In future study cycles, SCE urges the CAISO to make it a practice when new subareas are found to first consult with the Participating Transmission Owner ("PTO") serving the area before publishing the finding. Through such a process, the CAISO and PTO can determine whether a project or operating procedure can address the needs of the

[2] Draft Study, at 78.
[3] *Id*.

potential sub-area, rather than assuming the sub-area has an LCR need. In this way, the CAISO can minimize the seemingly constant addition of "new" sub-areas, or at least be certain that any new sub-area should be included in the LCR Study as an area with local capacity needs.

**3. *Solution Provided***

SCE notes that the full technical analysis for the new El Nido sub-area first appeared in the draft Study, issued April 15, 2008 and that these results were not discussed in the March 4, 2008 "Summary of Findings" presented to stakeholders by the CAISO. Going forward, SCE would encourage the CAISO to communicate with SCE as soon as any new findings, such as the need for new sub-areas, become apparent in the technical analysis, rather than waiting until the "next available" stakeholder meeting to share such findings. This will provide SCE with a better opportunity to understand and analyze the findings related to the SCE transmission system. Such prompt notification will also advance the goal of having an open stakeholder process by allowing SCE to provide more meaningful participation in discussions related to those findings at stakeholder meetings. Perhaps most importantly, prompt notification of new findings will also better allow SCE to implement new operating procedures and/or projects to mitigate the concerns identified by the CAISO.

However, given the need for a quick response with respect to the new El Nido sub-area, SCE envisions that a Special Protection System (SPS) project to mitigate these concerns can be implemented prior to Summer 2009. SCE intends to work with the CAISO to enable expeditious review and approval of this SPS project.

CAISO response: SCE has submitted and the CAISO has approved a new SPS for El Nido that substantially eliminates this sub-area. This project will trip load anytime double-line outage is detected so that the rating of the remaining line is not exceeded. The CAISO will seek to coordinate with relevant PTOs prior to publication of findings on a new sub-area, but such coordination must be consistent with the overall LCR study schedule.

**B. Barre Sub-Area**

**1. *New Results***

In the draft 2009 LCR Study, the most critical contingency presented for the Barre sub-area is the loss of the Barre-Ellis 230kV line followed by the loss of the two S. Onofre-Santiago 230 kV lines, which the CAISO concludes would result in a voltage collapse.[4] As the CAISO states, the voltage collapse (a non-linear problem) has increased substantially (about 1000 MW) in response to a small change in load (about 188 MW).[5] The loss of the Barre-Ellison 230kV line followed by the loss of the two S. Onofre-Santiago lines is a N-1-2 or a Category D contingency and is therefore more stringent than the performance criteria that the CAISO states that it is applying in the draft Study.[6]

At the April 10, 2008 stakeholder meeting, SCE raised concerns regarding the application of Category D criteria. The CAISO stated that its modeling of Category D criteria complies with NERC performance standards in order to prevent voltage collapse. The CAISO also stated that upon the first single line outage (N-1), if the consequence of the next common-mode outage (-2) is voltage collapse, then operator intervention may be

[4] *Id*.
[5] *Id*. *See also* CAISO presentation at LCR Stakeholder Meeting, April 10th, 2008, at 18.
[6] Draft Study, at 8. ("… [T]his LCR Report is based on NERC Performance Level B and Performance Level C criterion.")

needed prior to the second contingency and therefore such Category D voltage collapse conditions should also be included in the CAISO's LCR analysis. Since the universe of Category D "N-1-2" outages is extremely broad (and the likelihood of an N-1-2 contingency is relatively low), it is important for the CAISO to clarify the following points in its final 2009 LCR Study: (i) to which areas of the CAISO system is the Category D "N-1-2" contingency analysis applied (including confirmation that such Category D criteria is being applied to the Barre sub-area); (ii) which N-1-2 contingencies are simulated in the draft Study; (iii) how the N-1-2 contingency list is created; (iv) the process by which the CAISO determines which N-1-2 problems must be addressed; and (v) what analysis techniques (i.e., PV, QV, reactive margin, etc.) the CAISO uses to analyze non-convergent load flow cases and to make the determination that voltage collapse is indeed the problem.

**2. *Modeling Issues & Questions***

Although the CAISO has provided an overview of the rationale for its modeling approach for the Barre sub-area and SCE is appreciative of these efforts, SCE does not believe it has enough information to understand and fully analyze the results of the draft Study. SCE respectfully requests that the CAISO share all relevant information related to the voltage stability and reactive margin analysis conducted as part of the Barre sub-area analysis and, in particular, the results of QV analysis. The information will allow SCE to better understand the quantified reactive power deficiency in this region and identify which substations are most vulnerable to voltage collapse condition. Moreover, application of more stringent Category D criteria in this sub-area has triggered the need for a considerable amount of reactive power procurement from existing generators, which will have a significant financial impact upon SCE. Thus, it would therefore be greatly beneficial for the

CAISO to provide an estimated amount of reactive support (MVAR) needed within the Barre sub-area.

SCE proposes a more collaborative approach for future LCR Studies particularly when such non-thermal (*e.g.*, voltage or stability restrictions) limitations have been identified by the CAISO. As discussed in the Introduction above, SCE recommends that the CAISO provide stakeholders with relevant information related to the LCR Study and notifying stakeholders of key findings prior to issuing the draft LCR Study. As a result, stakeholders will be better able to work with the CAISO to address limitations in the applicable area or sub-area, expedite the exploration of short-term reinforcements and eliminate the need for reassessment with the application of operating solutions (such as SPS).

**3. *Solution Provided***

SCE believes there are alternative solutions to mitigate local constraints that are consistent with the CAISO Tariff and NERC/WECC Reliability Criteria including, a remedial action scheme, operating procedures (such as an SPS project), load shed or additional generation and requests that the CAISO include these potential solutions in the final 2009 LCR Study. In the interest of implementing a timely and effective solution, SCE is currently working with the CAISO to finalize and approve an SPS project to mitigate the Barre sub-area voltage collapse issue.

CAISO response: SCE has submitted and the CAISO has approved a new SPS for Barre sub-area that decreased the need by about 1,300 MW. The CAISO is running all N-1-2 contingencies in all local areas, however as described in the LCR criteria (see Table 4 Category D), only those that result in voltage collapse or dynamic instability are mentioned

as binding constraints. The epcl developed by the CAISO takes all combination of single element outages and C5 common mode double line outages. The SCE and CAISO have been working together on issues related to this sub-area for quite some time now since this problem (N-2) Songs-Santiago existed before the CAISO was formed and SCE used to have an operating procedure specifically designed to protect for it. The CAISO results for this sub-area have been shared with SCE planning and operations engineering for Summer 2008 operation season as well 2009 LCR.

**III. Conclusion**

SCE requests that the CAISO modify its draft Study findings and assumptions in the manner described above when preparing the final 2009 LCR Study. SCE is ready and willing to provide any assistance or additional information the CAISO may need to implement these changes.