

**Written comments with CAISO reply
Submitted after the
November 24 Stakeholder Meeting regarding the
2011 Local Capacity Requirement (LCR)
Criteria and Methodology and the
2011 LCR Manual**

CCSF Comments on CAISO

2011 LCR Study Criteria, Methodology and Assumptions

The following are comments submitted on behalf of City and County of San Francisco (CCSF) on the CAISO Draft Manual for the 2011 Local Capacity Area Technical Study document dated November 5, 2009.

Comments/Questions on Draft Manual 2011 LCA Technical Study, November 5,

2009 Version

1. At page 9-10 the 2011 LCR Manual states that the only way to have a stable area is to define it as a fixed boundary based on past experience of known constraints into any one area. This approach has the advantage of encouraging longer-term contracting by LSEs for resources within the defined boundary, but has a major disadvantage of not providing credit for resources that might be located outside the geographic boundary but still be effective in mitigating the binding constraint. CCSF believes that a better approach would be to create a virtual boundary, rather than a geographic boundary, and identify any resources that have an effectiveness factor greater than some threshold value (e.g., 5% or 10%, or perhaps the minimum effectiveness of resources within the geographic boundary). Given that CAISO considers the effectiveness of all units procured by LSEs while validating the local procurement, it stands to reason that the CAISO should acknowledge that effectiveness in crediting such procurement to provide appropriate signals to market participants. Just as the effectiveness of resources within the geographic boundary might change as system configuration and loads change, so too might

the effectiveness of resources outside the geographic boundary but within the virtual boundary. To address the possibility of unit effectiveness changing over time, a minimum effectiveness level should be set (e.g., 5%), above which all resources exceeding the threshold within the geographic or physical boundaries would receive credit.

CAISO response: This approach has been extensively discussed in previous stakeholder meetings regarding the LCR criteria and methodology. The great majority of stakeholders have agreed that a fixed boundary is preferred because it enables LSEs to purchase long-term contracts. Without a fixed boundary, there is a potential that one year a certain unit would be located within the local area and next year would be outside that boundary. This uncertainty interjects risk into long-term procurement. The ISO will raise this issue again in the next year's stakeholder meeting to obtain input from stakeholders on whether they support a fixed or virtual boundary.

2. CCSF has reviewed the 2011 LCR Manual pages 16-20 that explains the order in which the resources are turned on in addressing certain contingencies. Given that the units under long-term contract are turned on first, please provide a list of such units for each load pocket. If the ISO cannot/ will not provide such data, please explain how Stakeholders will be able to replicate the ISO studies.

CAISO response: The ISO will review the extent to which the requested information is non-confidential and can be publicly provided.

Thank you for considering our comments and requests for clarifications. We look forward to your responses.

BAMx Comments on CAISO

2011 LCR Study Criteria, Methodology and Assumptions

The following are comments submitted on behalf of BAMx¹ on the CAISO Draft Manual for the 2011 Local Capacity Area Technical Study document dated November 5, 2009, and on the presentation and discussions conducted by the CAISO on the 2011 Local Capacity Technical Study Criteria, Methodology and Assumptions in the November 24, 2009, stakeholder meeting.

Comments on 2011 LCR (Local Capacity Requirements) Presentation

1. On slide#3, the ISO indicated that they would not indicate specific operational impact on particular generating facilities during identified contingencies. BAMx requests the ISO to provide as much additional information as possible on the operating procedures (in addition to the Base Cases).

CAISO response: The ISO will provide sufficient information for stakeholders to perform their own studies of the most limiting contingency. The ISO will review the extent to which the requested information is non-confidential and can be publicly provided.

2. Slide#3: BAMx would like to thank the ISO for agreeing to post the Stakeholder comments promptly in response to our request during the November 24th stakeholder meeting and to not wait to include the ISO's responses to those comments.

¹ BAMx consists of Alameda Municipal Power, City of Palo Alto Utilities, and City of Santa Clara, Silicon Valley Power.

3. On slide #6, the ISO states that the LCR study relies on both the ISO/NERC/WECC Planning Standards as well as the WECC Minimum Operating Reliability Criteria (MORC). BAMx requests the ISO to identify the incremental impact, if any, of applying MORC for each load pocket in 2011 LCR study.

CAISO response: This reference relates to the consideration and treatment of Path Ratings which have to be protected in MORC (Minimum Operations Reliability Criteria). Currently there are two local areas bounded by path ratings: LA Basin bounded by South of Lugo and San Diego bounded by South of SONGS. Studies to identify the incremental (or decrement) impact of applying MORC in LCR studies can be performed by interested stakeholders using the base cases posted on the ISO secure website.

Comments/Questions on Draft Manual 2011 LCA Technical Study, November 5, 2009 Version

1. BAMx has reviewed pages 16-20 of the 2011 LCR Manual that explain the order in which the resources are turned on in addressing certain contingencies. Given that the units under long-term contracts are turned on first, please provide a list of such units for each load pocket. If the ISO cannot/ will not provide such data, please address the ability of Stakeholders to replicate the ISO studies without this information.

CAISO response: The ISO will review the extent to which the requested information is non-confidential and can be publicly provided.

2. Page 10 contains the statement “The ISO must maintain the system in a safe operating mode at all times. This obligation translates into respecting the Reliability Criteria at all times. For example, during normal operating conditions,

the ISO must protect for all single contingencies and common mode double line outages.” The Manual goes on to emphasize a requirement to “support all Category B and C5 contingencies.” Load dropping is allowed under the applicable Reliability Criteria for a C5 contingency. Is having a SPS load dropping scheme in place, “supporting a C5 contingency”?

CAISO response: The criteria allows for firm load dropping after a category C5 contingency as long as it is planned and controlled. The SPS approach fits the description and is allowed after a Category C5 event. However if there is no SPS or other planned load dropping procedure in place (subject to available short-term emergency ratings and operating procedure), then resources need to be dispatched in real-time in order to assure that there is no violation to equipment ratings after the Category C5 event.

3. As part of the 2010 ISO Transmission Planning Process, the ISO posted the list of category B and C contingencies with descriptions on its secured website. We found this data to be quite useful. BAMx requests the ISO to post a similar list in addition to the Base Cases for the 2011 LCR study clearly identifying the type of contingency, for example, the exact reliability category C3 vs. C5, etc.

CAISO response: The ISO is using the same list of contingencies to run LCR studies as the transmission planning process, which is already posted on the ISO website. For Category C3 the ISO contingency processor automatically runs all combinations of Category B (so there is no additional file). After finding the most stringent contingencies, the ISO manually readjusts the system between first and second contingency as described in the 2011 LCR Manual if necessary.

Thank you for considering our comments and requests for clarifications. We look forward to your responses.

SDG&E's 2011 LCR Manual Comments

1. Standard Capacity Product (SCP) impacts on LCR:

The SCP has introduced inconsistencies into LCR. The CAISO now determines an availability target for most of the participating generators based on historical data (under recent tariff changes). However, the CAISO's current LCR process ignores this more accurate availability information and basically assumes 100% availability. The CAISO should utilize its SCO availability information to create more accurate NQC values to be used in determining LCR. The CAISO has started the SCP II process to cover all other resources so availability information can be used to refine all NQC.

CAISO response: The LCR process does not establish NQC values, but rather uses existing NQC values as established.

2. Consistent evaluation conditions for LCR

All loads and resources should be evaluated on a consistent basis for LCR. For most areas (like SDG&E) the expected performance of loads and resources during a one in ten year weather condition (90/10) should be used as the reliability basis for LCR. Currently only load and to a lesser extent wind are evaluated this way. Fossil generation and DR data on a 90/10 basis is available but not used by the CAISO. This creates a distorted LCR determination which counts on offsetting errors (like over counting generation and undercounting DR) assure reliability. The CAISO must use NQC values that correlate as accurately as possible to the load condition used (90/10) regardless of what the CPUC determines because this

is the only way the CAISO can assure reliability. Other use limited and intermittent resources should be evaluated at the same 90/10 load basis and their NQC adjusted when the necessary data is available.

CAISO response: The LCR process does not establish NQC values, but rather uses existing NQC values as established. For clarification, each resource has only one NQC that is used for both system and local regardless of the methodology by which it was calculated.

3. **Greater San Diego – Imperial Valley (GSD-IV) LCR area:**

The long-term LCR study has introduced the concept of a GSD-IV area. Whether it is needed at all should be discussed in this forum. Also the details of how this area could be evaluated need to be determined like the evaluation of available imports into the GSD-IV from CFE and IID balancing authorities.

CAISO response: The ISO will discuss long-term LCR issues in the 2011 LCR process, including GSD-IV area.

4. **Inconsistent evaluation criteria:**

The CAISO Transmission Planning Process (TPP) and LCR use inconsistent evaluation criteria. An N-1-1 problem that requires planned load shedding can be ignored in the TPP as a Category C condition but could require backstop procurement in the LCR process. This could cause the rejection of a cheaper transmission solution in the earlier TPP that causes a more expensive generation purchase in the latter LCR. Consistent and timely least cost solutions to valid reliability problems must be allowed by the CAISO across all processes.

CAISO response: N-1-1 problems in the TPP are catalogued and posted on the ISO website. They all require mitigation regardless of whether they were planned and/or controlled load shedding or resource procurement under the LCR process. The ISO has developed numerous operating procedures and approved rerates or SPSs in PG&E and SCE areas directed at LCR reduction.

5. **What changes are allowed outside the normal time-line**

Clarification on when/how/if resource and load values are changed after the normal lock-in period is needed for new generation, DR programs or forecasts.

Also how pending transmission system reconfigurations are handled.

CAISO response: The load forecasting and modeling of new generation and/or new transmission projects are locked in after base cases are finalized around January 15, 2010. The ISO then posts by mid-year 2010 the actual 2011 NQC values for all resources to be used in procurement. The LCR studies are run using the last year's NQC values; however, the actual 2011 NQC values are used for procurement and validation. DR values used in the RA process are those approved by CPUC and/or other LRA; dates differ from one regulatory agency to the next.

6. **Monthly Local Resource Adequacy Requirement**

SDG&E seeks a response on the feasibility of establishing a monthly Local Resource Adequacy Requirement. SDG&E questions the annual requirement's continued viability, particularly following the implementation of Standard Capacity Product (SCP). Under the current year-ahead requirement, all months in the year have the same 1 in 10 peak load requirement. The static monthly requirement based on the August peak requires LSEs with a non-grandfathered

SCP resource to submit its local resources to meet the August peak requirement, even in non-summer months. In other words, the inflated load requirement in the shoulder months force LSEs to commit more resources than necessary. More importantly, following SCP's implementation, this additional resource commitment exposes the LSE to non-availability charges. On the other hand, a Local Requirement based on monthly load shapes would allow the LSE commit only the resources necessary to still meet the Local Requirement, while still maintaining Local Reliability. SDG&E proposes the CAISO and the CPUC review this criteria in the LCR study, RA proceeding and the SCP proceedings.

CAISO response: The LCR process contemplates that the LSEs will purchase and make available to the ISO across the entire year the amount needed to meet LCR criteria at summer peak. The ISO will be able to allow transmission and generation outages in the off-peak conditions. At this time there are no plans to establish a different month by month Local Resource Adequacy Requirement.

Comments on the CAISO Draft Manual
2011 Local Capacity Area Technical Study

PG&E provides these comments in response to the ‘2011 Local Capacity Area Technical Study – Draft Manual’. We appreciate the efforts made by CAISO and the opportunity to make comments. We also appreciate the presentation made by Catalin Micsa on November 24, 2009.

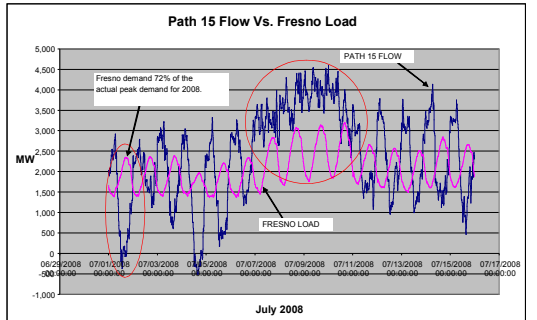
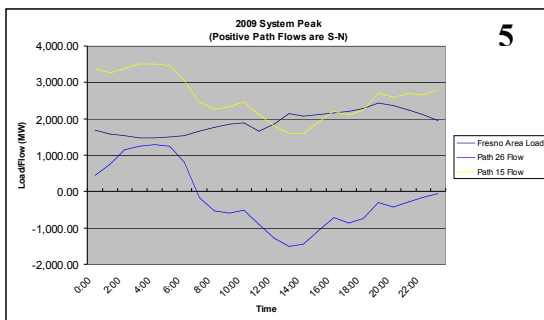
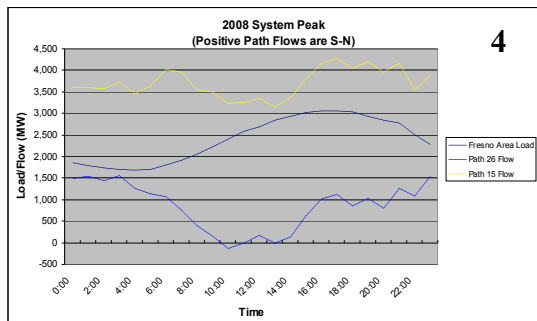
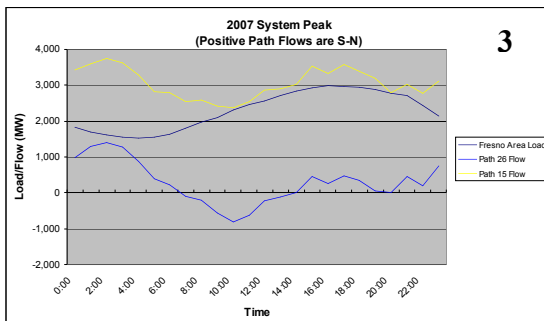
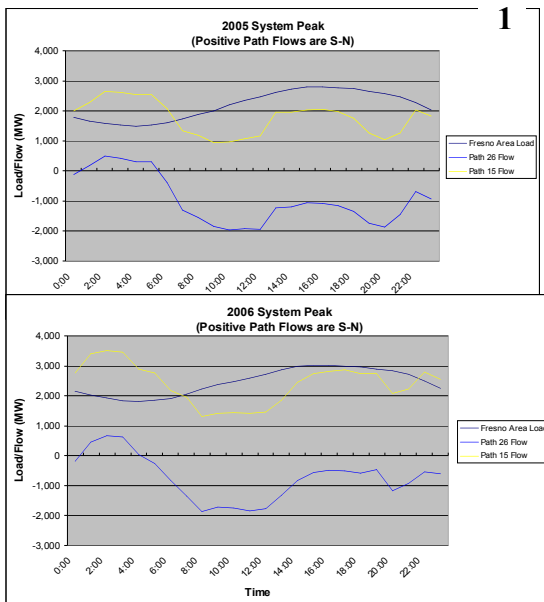
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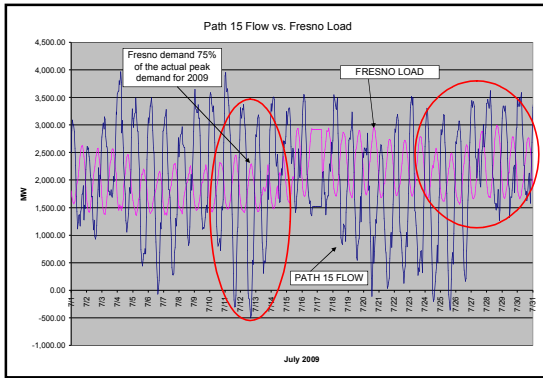
1. Path 15 – In the Draft Manual and meeting presentation, the CAISO has indicated that the Path 15 Flow will be kept constant at 1275 MW North to South (N-S) for the purpose of the 2011 Fresno Area LCR Studies. PG&E believes that this is a very unrealistic assumption to make that unreasonably increases the LCR for the Fresno Area.

PG&E has analyzed Path 15 real-time data, which revealed that, for the past five years, the Path 15 flow has not been in the N-S direction during the Fresno area peak demand days. Typically, the Fresno area load peaks on the same days when the overall PG&E system peaks. Charts 1 – 5 below present the actual Fresno area load on the days the PG&E system peaked for the years 2005 to 2009. The charts show that on Fresno (and System) peak loading days, flows on Path 15 can be well over 2000 MW in the south to north direction (S-N). In addition, the charts indicate that during these periods of high loading conditions, the N-S flow on Path 26 also decreases in relation to the Path 15 flow.

Additional data analysis indicates that N-S flow on Path 15 can occur during the summer time. However, this happens on non-peak days when the Fresno load demand is about 25% lower than the actual peak demand for the year. Chart 6 and 7 present examples of the Fresno load demand and Path 15 flows for the month of July 2008 and July 2009. Both charts show a few days during the month when the Path 15 flow was in the N-S (~500 MW) direction but it also shows that the Path 15 flow will generally increase in the S-N direction as the Fresno area demand increases during the summer peak periods. PG&E would like to note that high N-S flow on Path 15 during summer peak periods, as proposed in the LCR Manual, is only possible when most of the generation south of the Fresno area is offline (on occasion this could include Diablo Canyon).

PG&E understands that the local capacity requirements study is inclined towards determining the local areas capacity needs under worst case scenarios. However, based on the real-time data, it is unrealistic to assume that the Path 15 flow will be 1275 MW in the N-S direction during Fresno area peak loading conditions. For the above reasons, PG&E recommends at a minimum, a range of -250 to 250 MW N-S flow on the Path 15 be acceptable for the purpose of the Fresno Area LCR studies. Assigning a range for the Path 15 will more accurately reflect the LCR needs of the local Fresno Area and it will also eliminate the need for adjusting the Path 15 flow after different steps in performing the local capacity technical study.





CAISO response: The data submitted shows significant changes between different peak days and years and not a consistent pattern. The July 2008 data could be used to justify a 4500 MW S-N flow; whereas the July 2009 data shows high Fresno peak days with Path 15 flow in the N-S direction. The ISO finds that the data submitted does not justify PG&E's proposed range of -250 to +250 MW N-S Path 15 flow but rather a 5000 MW swing between 4500 MW S-N and 500 MW N-S flow. The Path 15 flow at the time of Fresno peak must allow the ISO to manage Fresno constraints without market impact on Path 15. At this time, the ISO does not believe that data conclusively supports a change to the previously agreed upon assumption. However, ISO will further review the issue.

2. Load Pocket Boundary Changes – PG&E agrees with the CAISO that new transmission additions and system configuration changes may relieve existing transmission constraints and may also potentially lead to load pocket boundary changes. However, PG&E requests the CAISO to clearly define the process for how a load pocket boundary for a local area would change. The '2011 Local Capacity Area Technical Study – Draft Manual' seems to indicate that this issue is considered on an annual basis. PG&E would like to suggest that the longer-term (3 and 5 year) LCR studies be used to identify, in advance, the time frame of any potential changes in load pocket boundaries definitions. Identifying the potential load boundary

changes in the long term LCR studies would still provide certainty and enough stability of the load pocket boundaries. In turn, this will still promote long-term contracts by LSEs while accurately identifying the appropriate system constraints and effectiveness of generation in an area during the technical analysis. PG&E requests that the details for this process to identify load pocket boundary changes be included in the annual LCR manual.

CAISO response: In general, the long-term LCR studies do identify changes to the local area boundaries because most major transmission and/or generation require long-lead times for implementation. Exceptions may constitute local areas where small, easier to build, projects with short lead times may require changes to the boundary not envisioned in the previous year's long-term LCR studies.

CONCLUSION

PG&E requests the CAISO staff consider the above comments.

**CPUC Staff Comments on the CAISO *Draft Manual 2011 Local Capacity*
Area Technical Study, Issued on November 10, 2009**

The CPUC staff supports the CAISO's efforts to maintain stable boundaries of local areas over time and commends the CAISO on its success in minimizing changes to local area boundaries over the previous Local Capacity Reliability (LCR) studies.

The CPUC staff notes one area of concern. At page 10, the *Draft Manual 2011 Local Capacity Area Technical Study* observes that the area definitions are subject to change based on major new transmission or generation projects which impact the constraints. The CPUC staff anticipates that certain changes, particularly the Moraga transformer banks upgrade, may occur in a timeframe that could impact the 2012 LCR boundaries. Further, the CPUC staff notes that the final 2010 LCR study indicates an increasing relationship between the Greater Bay and North Coast/North Bay local areas, specifically between the Pittsburg/Oakland and Lakeville sub-areas (see pages 31 and 55). The CPUC staff understands that the Moraga banks upgrade may further increase the interconnection between these two areas. Therefore, the CPUC staff suggests that the 2011 LCR study should provide analysis of the justification for and impacts of changing LCR boundaries, particularly the boundaries of the Greater Bay and North Coast/North Bay areas. The CPUC staff does not suggest that the 2011 LCR study should actually change the boundaries of any local areas. Rather, the 2011 study should seek to inform

stakeholders about changes that may occur for the 2012 study. This analysis by CAISO will provide an opportunity for the CPUC and other stakeholders to understand, evaluate, and comment on the possible boundary changes.

CAISO response: The ISO will discuss long-term LCR issues in the 2011 LCR process, including the relation between the North Coast/North Bay area LCR needs and generation within the Greater Bay Area particularly in the Pittsburg/Oakland area.