Written comments with CAISO reply Submitted after the March 10 Stakeholder Meeting regarding the 2010 Local Capacity Requirement (LCR) Results

BAMx Comments on CAISO 2010 LCR Draft Study Results- March 10, 2009 Presentations

The following are comments offered by the Bay Area Municipal Transmission group (BAMx)¹ on the CAISO draft study results for the 2010 Local Capacity Requirements (LCR) presented at the March 10, 2009, stakeholder meeting. These comments are in reference to the study results presentation for the PG&E service areas.

1. BAMx requests that level B and C requirements be clearly indicated on all reporting of results. This information was available in most but not all presentations. BAMx has previously requested information on any (and all, if any) operating procedures, Special Protection Schemes (SPS), or other load dropping schemes that have been assumed for these studies. BAMx has also suggested that the CAISO take a proactive role in using such procedures to reduce LCR requirements. We continue to encourage the ISO to make the details of such procedures transparent to Stakeholders and the extent of any activities of the ISO to suggest methods of reducing LCR. We understand from past ISO responses that since the problems being addressed are long standing ones, it is unlikely that new procedures will affect the requirements for LCR. Yet we continue to see some local area requirements set by "C" level contingencies for which load controlled load dropping is allowed. Please provide, in answer to these comments or in the draft study report, the reasons why for controlled automatic load dropping would not achieve a reduction of LCR requirements to the lower "B" criteria level.

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

ISO response: ISO is in the process of standardizing the presentations and write-up for the 2010 LCR Report such that the Category B and C LCR needs will be clearly stated. Certain operating procedures are market sensitive and, as such, they are not released to the public at large. However consistent with its prior commitment, the ISO will describe any new operating procedure that reduces the LCR needs in a manner that will allow stakeholders to replicate these actions. The ISO is continuously looking for ways to improve transfers across the grid; this includes any new operating procedures that would result in decreased LCR. 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 can simply be reviewed and implemented. New SPS assumes some small capital costs, and the ISO must approve the project similar to any other new transmission project the costs of which will be included in a PTO's transmission revenue requirement. This approval must be obtained in accordance with the ISO's Transmission Planning Process.

2. The statement on slide#4 of the Overall Summary of Findings presentation,

"Humboldt LCR needs are increasing mainly because of new generation." is counter intuitive. The discussion at the meeting revolved around the design of the connection of the many small units to the substation bus. It is not clear how such a design issue raises the LCR requirements, but if it does, the plant interconnection should have been designed differently. Further explanation in the draft report is essential.

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ISO response: More explanations will be included in the long-term LCR report. This is no longer a 2010 issue because the new power plant has been delayed until after the Humboldt winter peak. Thus, the ISO has to revert back to the existing configuration.

3. The ISO's Greater Bay Area (GBA) presentation on slides 6, 12, 13 & 14 indicate that, with a re-rating of the Tesla Banks assumed for the study, the requirement was set based upon reactive margin. If reactive compensation was added, what would be the next event which would set the minimum generator requirement? What would that requirement be? Reactive compensation is relatively inexpensive and quick to install. Yet reactive margin continues to set the requirement in the Bay Area for multiple years. We see no proposed reactive additions in the ISO's grid plan that extends to 2018. We understand the ISO feels a need to order transmission additions for fixing reliability deficiencies and allows for approval of economic justified additions. What responsibility, if any, does the ISO have to investigate capital additions to reduce LCR requirements? Also please add the SF 115kV

Recabling Project in the list of new major transmission projects on slide#4. ISO response: The worst contingency is no longer a reactive margin issue. See the draft 2010 LCR Report. Also the LCR need for the reactive margin has decreased due to the use of Metcalf 500 kV capacitors on automatic settings. ISO will continue to investigate economic driven projects, such as the installation of additional reactive support, in order to decrease the Bay Area LCR needs. All proposed new transmission projects must follow the ISO's Order No. 890 Transmission Planning Process. If BAMx would like to propose a new transmission project, BAMx should submit a proposed project during the ISO Request Window, open from August 15-November 30, 2009. A-H-W #2 Recabling has been included; the rest have an in service date after June 1, 2010 and therefore will not be included in the 2010 LCR studies.

4. Every effort should be made to incorporate the latest load projections. The PTO's should be encouraged to update their projections based upon last years experience even if the revised CEC forecasts are not available. Our understanding is that the latest data used for the current projections represented in the 2010 LCR base cases have 2007 summer peak data as their last reference point.

ISO response: The ISO is using the latest load forecast provided by the CEC on January 13, 2009 (see letter posted here: <u>http://www.caiso.com/1c44/1c44b8e0380a0.html</u>) because the ISO Tariff requires that forecast. Using the PTO updated load forecast without CEC approval would be in violation of ISO Tariff.

Thank you for the opportunity to provide comments on the CAISO presentation of its draft study results for the 2009 LCR process.

CCSF Comments on the Initial 2010 LCR Study Results of March 10th

March 24, 2009

The City and County of San Francisco (CCSF) appreciates the CAISO's efforts to communicate its early results for its 2010 LCR technical studies with stakeholders at their meeting on March 10th. We encourage you to continue to share your progress in determining the 2010 LCR requirements.

We understand that you used the latest load projection you had available to you for your initial studies. The PTOs should be encouraged to update their projections based upon last year's experience even if the revised CEC forecasts are not available. Our understanding is that the latest data used for the current projections represented in the 2010 LCR base cases have 2007 summer peak data as their last reference point.

ISO response: See ISO response at page 5 above.

The ISO's Greater Bay Area (GBA) presentation at Slides 6, 12, 13 & 14 indicates that, with a re-rating of the Tesla Banks assumed for the study, the requirement for the GBA was set based upon reactive margin. If reactive compensation was added, what would be the next event which would set the minimum generator requirement? What would be that requirement be? Reactive compensation is relatively inexpensive and quick to install. Yet reactive margin continues to set the requirement in the Bay Area for multiple years. We see no proposed reactive additions in the ISO's grid plan that extends to 2018. We understand the ISO feels a need to order transmission additions for fixing reliability deficiencies and allows for approval of economic justified additions. What responsibility, if any, does the ISO have to investigate capital additions to reduce LCR requirements? Also please add the SF 115kV Recabling Project in the list of new major transmission projects on slide#4.

ISO response: See ISO response at pages 4-5 above.

As to the San Francisco sub-area within the GBA, we believe there are numerous ways to reduce the LCR requirement to zero for 2010 and for many years to come. We understand that the Larkin 192 breaker project is already modeled as it should be. The ISO indicated that the San Francisco sub-area requirement could be reduced to zero if, in addition to Larkin breaker project, an automatic mechanism or an acceptable operating procedure could be implemented to make sure both the capacitor bank and the SVC at Potrero were switched in for the critical overlapping outage (C level) contingency of two cables. We find that confusing because we understand from PG&E that an automatic mechanism already exists. If those steps are not sufficient to reduce the LCR requirement in the City to zero for some reason, we encourage the ISO to work cooperatively with PG&E to investigate alternative methods to reduce the requirement to zero. Please confirm whether the lower LCR requirements in SF sub-area of 10MW and 15MW respectively for years 2011 and 2013 as indicated in earlier LCR study were the result of modeling of automatic operation of the capacitor bank at Potrero.

ISO response: ISO has used all of Potrero and Martin capacitors as well as the Potrero SVC on automatic mode during these studies.

Attractive options to be investigated on a timely basis should include:

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 The installation of a small reactor in either Martin Substation or Potrero Substation that could be inserted to relieve any loading problem. Our studies indicate that a 0.003 ohm reactor that could be switched into either Martin-Bayshore-Potrero cable would be inexpensive and provide a long term solution to the 115kV cable loading problems in the City. We believe this solution, with appropriate switching procedures, would allow the recabled 115kV network to meet the expected load beyond that projected for 2018.

ISO response: All new transmission projects need to follow the ISO's transmission planning process. If CCSF would like to propose a project, it should submit a project during ISO's Order 890 Transmission Planning Process Request Window discussed above.

2. The CAISO should encourage PG&E to develop Emergency Ratings on any cables that are critical for determining the LCR requirement. With the SF Recabling project, the critical A-H-W 115kV cables will be brand new by summer 2010. If Emergency ratings were determined safe for other very old In-City cables, such ratings clearly should be safe with new cables being installed.

ISO response: PG&E will pursue higher emergency ratings for the new cables, if feasible. However it is not clear if these ratings could be higher then the old ratings, since PG&E was allowed to include an extra reduction in useful life for the old cables (since they were being replaced anyway); and that will not be possible with the new cables. Once again, we appreciate the opportunity to comment on the March 10th presentations and look forward to working with CAISO staff to reliably reduce the San Francisco sub-area 2010 LCR.

Stakeholder Comments

Subject: Draft 2010 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 March 10, 2009, Southern California Edison Company ("SCE") hereby submits its comments on the preliminary 2010 LCR Study results presented by the CAISO at the March 10 meeting. SCE appreciates the opportunity to comment on the CAISO's March 10, 2009 presentations regarding its preliminary 2010 LCR Study results so that the CAISO will have the benefit of stakeholder input on its LCR analysis prior to completion of the draft 2010 LCR Study.

I. 2010 Draft LCR Study: LA Basin Sub-Area

The CAISO's presentations indicate that one of the key changes since the 2009 LCR was the removal of the Barre sub-area and the corresponding addition of the Western LA Basin sub-area within the LA Basin area. From a transmission planning standpoint, SCE appreciates the CAISO's efforts to clarify sub-area study findings within the LA Basin area. SCE agrees that the efforts made by the CAISO to provide more technical information regarding LCR areas and sub-areas allows for greater transparency and understanding of the technical study results, and are consistent with the Federal Energy Regulatory Commission ("FERC") Order No. 890 transmission planning process.

While SCE supports the effort to study sub-areas for technical transmission planning reasons, the LCR load pocket areas for which load-serving entities ("LSEs") will have procurement requirements should not change in 2010. SCE requests that the CAISO present study findings regarding the Western LA Basin sub-area, as well as the Rector and Vestal sub-areas in the Big Creek/Ventura area, in a manner that captures the relevance of sub-areas for planning purposes and expressly states that such study findings are sub-area procurement requirements in order to prevent undue confusion regarding procurement obligations.

As SCE noted in the 2009 LCR study process, it is not necessary or prudent for LSEs to have a local capacity procurement "requirement" in sub-areas. In particular, CAISO Tariff Section 40.3.2c states that, for California Public Utilities Commission ("CPUC")-jurisdictional LSEs, "the CAISO will allocate the Local Capacity Area Resource obligation based on an allocation methodology adopted by the CPUC." The CAISO also acknowledged in a 2009 LCR Study presentation that: (1) the CPUC has not previously enforced sub-area requirements as procurement obligations, and (2) the CAISO does not expect the CPUC to enforce sub-area requirements for the 2009 Local RA program.² If the CPUC were to include a discussion of sub-area study findings as it develops the 2010 Local RA requirements for its jurisdictional LSEs, then in addition to the technical findings, potential procurement implications should also be discussed.

SCE recommends, therefore, that the CAISO's draft and final 2010 LCR Study clearly identify the sub-area analyses as study "findings," and not as "requirements," as the CAISO did in the 2009 LCR Study Report.

ISO response: No changes are contemplated (or implied) to the ISO or CPUC LCR need allocation methodology or the procurement requirements for LSEs. The ISO will continue to use the words "need" or "requirement" to show LSEs that these sub-area constraints

² "Local Capacity Requirements (LCR) for Year 2009, Summary of Findings," dated March 4, 2008, at 5.

must be met or else the ISO may need to use its back-stop authority to procure capacity because the reliability criteria for these smaller sub-areas have not been met even when a sufficient number of MW of capacity have been procured by LSEs in a LCR area or TAC Area to meet their allocated local capacity requirements. This is essentially a collective deficiency scenario as discussed in the ISO Tariff.

II. <u>2010 Draft LCR Study: Big Creek/Ventura Area</u>

The CAISO's presentations indicate that the LCR need in the Big Creek/Ventura area has increased by 418 MW for the 2010 compliance year. In April 2008, SCE implemented the Big Creek/San Joaquin Valley Remedial Action Scheme ("RAS"). It can reasonably be expected that the LCR requirements for the Big Creek/Ventura area will decrease if the 2010 LCR study analysis incorporates this RAS to reflect the effects of permissible system restructuring consistent with North American Energy Reliability Corporation ("NERC") Planning Standards. Thus, SCE requests that the draft 2010 LCR Study apply this RAS to the calculation of Big Creek/Ventura area local capacity requirements.

ISO response: The final results reflect a much smaller increase in LCR needs between 2009 and 2010 due to reduction in previously assumed pump load in the area. The Big Creek/San Joaquin Valley RAS was modeled in the 2010 LCR studies; however, it does not reduce the LCR needs. The RAS was designed for system operations when resources are not available. The LCR study assumes that resources are available, and in accordance with the methodology included in the 2010 LCR Manual, firm load drop is not allowed for single contingencies in order not to procure available resources.

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III. Integration of CAISO and CEC Schedules

Based on the differences that emerged in the load forecasts of the California Energy Commission ("CEC") and SCE, SCE intends to work with both the CEC and the CAISO to improve the overall coordination of the process for future LCR studies.

ISO response: The ISO will work with the CEC, CPUC and stakeholders in order to align timelines and achieve higher coordination – including load forecast in the near future.

IV. Conclusion

SCE requests that the CAISO modify its preliminary 2010 LCR Study findings and assumptions presented on March 10, 2009 in the manner described above when preparing the draft 2010 LCR Study. SCE is ready and willing to provide any assistance or additional information the CAISO may need to implement these changes.

COMMENTS OF THE ALLIANCE FOR RETAIL ENERGY MARKETS ON DRAFT FINDINGS FOR THE 2010 LOCAL CAPACITY REQUIREMENTS STUDY

The Alliance for Retail Energy Markets (AReM)³ provides the following comments regarding the CAISO's draft findings for the 2010 Local Capacity Requirements (LCR) Study, which was discussed at the stakeholder meeting on March 10, 2009. While AReM does not have extensive technical expertise to evaluate the CAISO's analysis of contingencies on the transmission system, which is the underlying basis of the 2010 LCRs for the Local Capacity Areas, AReM does have two specific concerns based on its review of the LCR presentations on March 10th.

<u>Humboldt</u> – The CAISO has determined that Humboldt is now deficient, largely because new generation resources are operational and the CAISO believes that the plant's breaker arrangement results in an increased need for LCRs. It is a highly incongruous result that new generation in a load pocket increases the LCR. In effect, the increased LCR for Humboldt that results from this breaker arrangement essentially requires LSEs serving load in PG&E's service area to subsidize this new generation. Therefore, AReM requests that the CAISO re-evaluate the 2010 LCR for Humboldt.

ISO response: See ISO response at pages 3-4.

³ AReM is a California non-profit mutual benefit corporation formed by electric service providers that are active in the California's direct access market. This filing represents the position of AReM, but not necessarily that of a particular member or any affiliates of its members with respect to the issues addressed herein.

<u>Fresno</u> – The CAISO stated at the March 10th meeting that it plans to re-evaluate the draft findings for Fresno to test for the "worse case scenario" for flows on Path 15. First, AReM notes that the CAISO appears to be using the Fresno LCR to support intertie flows, which seems to be an improper use of the LCR, which is designed to ensure adequate resources are located within a local area to meet defined contingencies. Second, PG&E transmission staff at the March 10th meeting stated that the CAISO's proposed worse case is extremely unlikely to occur. AReM questions the use of such conservative analysis in setting the LCRs and requests the CAISO to revise its approach, or otherwise explain how this approach is consistent with established planning criteria.

ISO response: Per page 8 of the stakeholder- approved 2010 LCR Manual (located at: <u>http://www.caiso.com/20a2/20a2cd0273af0.pdf</u>), the ISO will use 1275 MW N-S flow on path 15 during the 2010 LCR studies. This is the worst case scenario and, by following it, the ISO is assured that at the minimum level specified all local area constraints will be met regardless of Path 15 flow. Path 15 is an internal path within the ISO. As such, there is no support to intertie flows based on Fresno LCR level. The ISO is willing to consider a different path 15 flow for the 2011 LCR study that is supported by real-time data and agreed to by stakeholders before the studies are started.

PG&E's Comments on the CAISO

2010 Local Capacity Requirement Draft Results

Introduction

PG&E appreciates the opportunity to comment on the CAISO's Draft 2010 Local Capacity Requirement (LCR) study results presented on March 10, 2009. PG&E recognizes the substantial efforts and commends the CAISO Staff for its work in performing this study. Below are several comments that address potential improvements to further the effectiveness of the CAISO's LCR Study process. PG&E also submits certain new operating procedures to the CAISO for evaluation.

Comments

1. Update load forecast---PG&E understands the CAISO's 2010 LCR base cases are based on the 2007 CEC forecast. PG&E also understands the CEC, due to deterioration of economic conditions, has reduced its year 2010 load forecast in SCE's service territory by about 3% based as of mid-January 2009. The CEC is scheduled to provide a new forecast by April 2009 for the development of system resource adequacy (RA) requirements. PG&E believes the CAISO must update its 2010 LCR evaluation and consider reevaluating the 2010 requirements once using the CEC's new April 2009 load forecast, which will more realistically reflect the current economic down-turn. In doing so, the CAISO's LCR analysis will be consistent with the system RA requirements.

ISO response: See ISO response at page 5 above. Additionally, the ISO does not have the resources or sufficient time to re-run the 2010 LCR studies between a potential new CEC forecast and the deadline to post the final 2010 LCR report (May 1, 2009). The ISO notes

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that one year the load forecast could decrease, but the next year it could increase between the start of studies and when the report is finalized. The process allows for stakeholder meetings as well as necessary study time; therefore, any new load forecast needs to be provided before base cases are finalized and studies are started (January 15, 2009).

2. Comments on Specific LCR Areas:

• Greater Bay LCR Area

San Francisco Sub-area

PG&E successfully placed the Larkin Circuit Breaker No. 192 (CB192) Project in service ahead of schedule in March 2009. It is unclear if the CAISO has included the Larkin CB192 Project in its 2010 LCR analysis. PG&E requests the CAISO confirm the inclusion of the Larkin CB192 Project and quantify this project's impacts in reducing LCR in the San Francisco Sub-area. Furthermore, the Larkin CB 192 Project is also included in the CAISO's 2009 Transmission Plan.

PG&E understands the CAISO has indicated that the 2010 San Francisco Sub-area LCR requirement can be reduced to zero with the Larkin CB192 Project in service along with the effective use of the Martin capacitors. PG&E currently operates the Martin capacitors remotely by SCADA. The Martin capacitors can also be placed into an automated mode of operation. Therefore, the CAISO should assume that all stages of the Martin capacitors are in-service for the LCR studies. PG&E believes it has met the CAISO's operational procedure requirements even without considering a lower 2010 load forecast. Therefore, the 2010 San Francisco Sub-area LCR requirement should be reduced to zero.

Furthermore, PG&E wants to confirm that the CAISO has assumed that the Potrero capacitors and Potrero SVC are in-service for the LCR analysis. PG&E also operates the Potrero capacitors and Potrero SVC under an automated scheme and in a coordinated manner.

In addition to the Larkin CB192 Project and the operation of existing reactive devices, PG&E also has higher emergency ratings for the existing underground cables in San Francisco as a means to reduce LCR, particularly for category C events, which are probabilistically remote. Specifically, under emergency conditions, the existing cables can be loaded for a short period to the following ratings:

- A-W-H No. 1 rated to handle up to 220.89 MVA
- A-W-H No. 2 rated to handle up to 204.16 MVA
- H-P No. 1 rated to handle up to 204.16 MVA
- H-P No. 3 rated to handle up to 198.38 MVA

PG&E requests for the CAISO to evaluate the San Francisco Sub-area's LCR requirements with these higher emergency ratings for the underground 115 kV cables. As the CAISO is aware, PG&E is moving forward with an infrastructure maintenance replacement project to replace the A-W-H Nos. 1 and 2 and H-P Nos. 1 and 3

underground cables with newer and larger size cables. Specifically, replacement of the Martin-Bayshore section of the A-W-H No. 2 is scheduled for completion by Dec 2009, while the remaining section of the A-W-H No. 2 cable will be replaced by April 2010. The A-W-H No. 1 cable will be replaced by Sept 2010, while the H-P Nos. 1 and 3 cables will be replaced by May 2011. After replacing these cables with newer and larger capacity cables, PG&E expects to obtain similar, if not higher, emergency ratings than currently in place. These higher emergency ratings should be factored into the LCR analysis.

ISO response: All the above data has been included in the ISO studies. The Potrero Static Var Compensator (SVC), Potrero capacitors as well as Martin capacitors are all modeled on automatic settings, therefore instantaneously reacting to changes in voltages around the area. The Larkin CB 192 project is in service and the breaker is closed. Only the A-H-W #2 re-cabling project has been included in the 2010 LCR study because it is the only one with an in-service date before June 1, 2010. Still there is a small need (25 MW) based on the new equipment ratings provided by PG&E for the new A-H-W #2 115 kV cable.

Furthermore, preliminary studies by PG&E indicate that installation of series reactors on the four 115 kV import lines into San Francisco could reduce emergency loadings on those lines, which could also reduce the amount of LCR needed for the San Francisco Sub-area in the near term planning horizon.

For the longer term, beyond year 2010, PG&E has proposed a new 230 kV underground cable between Embarcadero and Potrero substations. Completion of the

Embarcadero-Potrero 230 kV Project would provide the necessary transmission capacity to reliably serve the City, assuming zero generation at Potrero Substation. In addition, completion of this project would also provide a higher level of reliability to the downtown San Francisco area by installing a third 230 kV feed into the Embarcadero Substation.

ISO response: All future project proposals need to be submitted during the 2009 Request Window- in the ISO Order 890 Transmission Planning Process.

Overall Greater Bay Area

For the Greater Bay Area, the CAISO staff indicated that the Metcalf 500 kV shunt capacitors were not used for the most critical contingency identified in this study. PG&E requests the CAISO update its LCR analysis to include the operation of the Metcalf 500 kV shunt capacitors. The Metcalf 500 kV capacitors are indeed under automated operation and should be assumed in-service for the LCR studies. As a result, PG&E expects a lower LCR for the Overall Greater Bay Area with the Metcalf 500 kV capacitors assumed in-service.

ISO response: PG&E has provided detailed information about the automatic operation for the Metcalf 500 kV capacitors. The studies have been re-run and the results will be presented at the stakeholder meeting April 14, 2009.

• Humboldt LCR Area

It is interesting that the CAISO identified a connection from a Generation Step-up Unit (GSU) high-side circuit breaker to the 60 kV bus at Humboldt Bay Power Plant

(HBPP) Substation as an L-1 contingency and concluded that the Humboldt Area is generation capacity deficient. This short connection is less than 100 feet in length and is within the power plant switching station. PG&E is very interested in working with the CAISO to eliminate this L-1 contingency and eliminate unnecessary costs to PG&E's customers.

ISO response: See ISO response at pages 3-4 above.

• North Coast / North Bay LCR Area

PG&E does not agree with the LCR value of 857 MW for the overall North Coast / North Bay area. With the 3,240 MW generation required to be online in the Pittsburg/Oakland Sub-area, the LCR for NC/NB area should be approximately 700 MW.

Furthermore, PG&E anticipates that this amount (700 MW) of LCR in the North Coast / North Bay Area can be further reduced with the following operating procedures:

Operating Procedure for Vaca Dixon-Lakeville 230 kV Line Outage with Delta Energy Center offline

- Limiting Element: Tulucay-Vaca Dixon 230 kV Line
- Operating Procedure: Following the second contingency, open end Lakeville-Tulucay 230 kV line to relieve the overload on the Tulucay-Vaca Dixon 230 kV line.

Operating Procedure for Vaca Dixon-Tulucay 230 kV Line Outage with Delta Energy Center offline

- Limiting Element: Lakeville-Vaca Dixon 230 kV line
- Operating Procedure: Following the second contingency, open end the Lakeville-Vaca Dixon 230 kV line to relieve the overload on this line.

ISO response: ISO agrees with PG&E and the new numbers reflect the 700 MW need. The new operating procedures have not been validated because the overloaded equipment does not have short term emergency ratings in the CAISO register.

• Sierra LCR Area

For the Sierra Area, the CAISO identified the Palermo 230/115 kV Transformer Bank No. 2 to be the limiting component for the south of Palermo Sub-area. This transformer is currently limited by its low-side circuit breaker. PG&E is scheduled to replace this circuit breaker with a new 3,000 Amp circuit breaker by summer 2010. Hence, PG&ES requests the CAISO to reflect this project in the 2010 LCR study. Furthermore, this circuit breaker replacement project is also included in the CAISO's recent 2009 Transmission Plan report as recommended for ISO Executive Management approval for May 2010.

In addition, the CAISO should also include the reconductoring of the Table Mountain – Palermo 230 kV Line. This line was recently reconductored under an infrastructure maintenance replacement project. After completion of this reconductoring work, this line is rated to handle up to 1,480 Amps for emergency conditions. PG&E requests that the CAISO update its analysis for Sierra with this reconductoring work in-service.

PG&E also does not agree with changing the Sierra Area boundary to include the Lodi Stigg unit.

ISO response: The studies have been re-run with the Palermo 115 kV Circuit Breaker and Switch Replacement project operational; the results will be presented at the stakeholder meeting on April 14, 2009. The new rating for the Table Mountain-Palermo 230 kV line has been used in the draft 2010 LCR studies.

Greater Fresno LCR Area

For the Greater Fresno Area, the CAISO has used a 1,175 MW north-to-south (N-S) flow on Path 15. PG&E, in November 2008, provided comments and real-time data in support of using Path 15 flows within a range between -250 MW and +250 MW N-S for the purpose of the Greater Fresno Area LCR study. PG&E again requests the CAISO to consider PG&E's proposed flow for Path 15.

ISO response: See ISO response at page 15 above.

3. Identifying the second most critical contingency and limiting facility---In addition to identifying the most critical contingency and limiting facility, PG&E requests that the CAISO provide information about the second most limiting contingency and limiting facility for each of the LCR areas and Sub-areas. Given the short time between the posting of the CAISO's draft results and PTOs having to come-up with any feasible operating solutions, such information would help PTOs to focus in the areas with the most significant LCR reduction.

ISO response: The ISO believes that the significant data provided to stakeholders is already cumbersome and there is no merit to providing another level of "second most limiting contingency" for every area and sub-area especially given that the proposed operating solutions are very few. Also, this information could prove to be false because, depending on how the most limiting contingency is solved, the second most limiting contingency could change (or the LCR need could change). ISO will continue to work with stakeholders and PTOs in order to get more details about next worst contingency once a proposal to solve the worst contingency has been submitted. PG&E as well as any other stakeholders can conduct their own LCR studies and find all the most limiting contingencies per 2010 LCR Manual.

4. Modifying the LCR area (Sub-area) boundary---The CAISO has proposed to change the boundary for some LCR areas (Sub-areas) in performing this study. PG&E believes this creates confusion and inconsistency in the results. In addition, this is inconsistent with the CAISO's LCR Study Manual, which states that the area definition would change only if new major transmission and/or generation projects significantly change the local area constraints.

PG&E recommends that the CAISO not change the existing LCR areas and Sub-areas boundaries in this 2010 study. PG&E believes the CAISO must go through a

stakeholder process and clearly establish clear criteria when implementing changes in LCR area definitions.

ISO response: ISO has and will continue to go through the open stakeholder process before making any changes to the existing boundaries. For 2010 there are two small changes fully described at the last stakeholder meeting, and they will be presented again at the April 14, 2009 stakeholder meeting. The first change is due to the elimination of the Stagg sub-area LCR needs and the fact that the generating unit helps numerous sub-areas in Sierra (some of them deficient) without negatively impacting any local constraints. The second is to prepare the system for connection of new generation projects, and is due to the fact that these new units help very little but they negatively impact some local constraints in the Fresno area.

5. Publishing the list of generation units along with their effectiveness factor---PG&E understands that the CAISO will publish information on LCR generation units along with their effectiveness factors in the final draft report. Unfortunately, such information is not currently available and makes it very difficult to verify the CAISO's results and to provide comments.

PG&E requests CAISO to supplement the LCR generation information and effective factors to stakeholders.

ISO response: ISO has included numerous effectiveness factors in the draft 2010 LCR Report in areas where the ISO believes it will positively influence resource procurement.

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Conclusion

PG&E appreciates the opportunity to provide comments and submit operating procedures.

Comments of J.P. Morgan Ventures Energy Corporation

Subject: CAISO's 2010 Local Capacity Technical Study

J.P. Morgan Ventures Energy Corporation (J.P. Morgan) appreciates this opportunity to comment on the California ISO's (CAISO's) 2010 Local Capacity Technical Study and issues discussed at the March 10, 2009, stakeholder meeting regarding the same. J.P. Morgan provides the following comments and requests that the CAISO consider these comments as it prepared its draft final LCR study.

LA Basin Requirements

J.P. Morgan requests that, for purposes of developing its draft final technical study, the CAISO: 1) explicitly factor in the impact, if any, of transmission projects proposed and approved in the CAISO's 2009 transmission plan on the LCR in the LA Basin; and 2) clearly define, both geographically and electrically, the boundary of the new Western LA Basin sub-area and the resources most effective at addressing the new sub-area requirements.

Specifically, with respect to the first item above, J.P. Morgan requests more information on the potential impact, if any, of the proposed Barre-Ellis 230 kV Line Upgrade (anticipated in service date of January 2010) and Redondo-La Fresa 230 kV Line Upgrades (anticipated in service date of December 2009) on the 2010 LCR in the LA Basin.

With respect to the second item, as understood by J.P. Morgan, the previously known and established Barre sub-area within the LA Basin was eliminated as a result of a certain

Special Protection Scheme (SPS) proposed and implemented by Southern California Edison Company (Edison). As a result of implementing that SPS and eliminating the Barre sub-area, the next limiting contingency became the loss of the Serrano - Villa Park #1 or #2 and Serrano – Lewis 230 kV lines with the limiting component becoming the Serrano – Villa Park #1 or #2 230 kV line. J.P. Morgan requests that the CAISO provide further information regarding both the geographical and electrical boundary of the new Western LA Basin sub-area and also identify and discuss which resources are effective at addressing the specific contingency identified above.

ISO response: First, none of the projects approved by ISO as part of the 2009 transmission plan with in service date before June 1, 2010 impact the results already presented at the March 10, 2009 stakeholder meeting. Second, the ISO does not have definitions for sub-areas. They merely include resources that are effective in mitigating (usually) the most limiting contingency for that sub-area. The ISO has included a full list of resources that are considered to be within the Western sub-area in the draft 2010 LCR Report.

Process Refinements

J.P. Morgan requests that the CAISO CAISO consider certain process improvements to improve coordination between the CAISO's Transmission Planning and LCR Study process. J.P. Morgan previously submitted comments to the CAISO regarding the CAISO's 2009 Transmission Plan and the recommended process improvements. Those comments can be found at:

http://www.caiso.com/1ca5/1ca5d8334b920.html

J.P. Morgan refers the CAISO to the following passage:

J.P. Morgan recommends that the CAISO consider refinements to the process to more explicitly acknowledge in all of the aforementioned processes projects proposed and discussed in one particular venue that may impact another. For example, transmission projects proposed in the transmission planning process for the purpose of addressing NERC/WECC/CAISO reliability criteria should be explicitly identified and considered in a timely manner in the CAISO's LCR Study process. Recently, J.P. Morgan learned that transmission projects recommend for approval and discussed at the February 27, 2009, transmission planning stakeholder meeting had not yet been factored into the CAISO's 2010 LCR Study draft results that were due to be presented at the March 10, 2009, LCR stakeholder meeting. Furthermore, at the March 10, 2009, LCR meeting, while the "next steps" acknowledged by the CAISO including consideration of possible "operating procedures" that may mitigate LCR needs, the process did not explicitly acknowledge the need to factor in newly approved transmission projects. When questioned, the CAISO acknowledged that the impact of newly approved transmission projects would be factored in to the final LCR study results. J.P. Morgan posits that the more in advance a market participant is able to consider the impact of a particular project on the final outcome of a study or plan, the better able it may be assess the project's impact on its interests and consider possible alternatives.

While J.P. Morgan understands that it is the responsibility of market participants to represent their interests in all of the above-identified forums, the CAISO process should be as clear and transparent as possible and should assess and facilitate understanding of the impact of a project proposed in one forum on the requirements identified in another. While J.P. Morgan appreciates the tremendous time and resources the CAISO commits to these efforts and the fact that the CAISO does in fact consider these interprocess impacts, J.P. Morgan recommends that the CAISO: 1) consider flagging or otherwise identifying projects that are being considered in multiple forums; and 2) consider providing bi-monthly or quarterly status reports on all proposed projects or, alternatively, consider adding an additional stakeholder meeting to discuss the integration of information from all parallel efforts (transmission planning, LGIP, LCR, LT-CRRs, etc). J.P. Morgan appreciates the tight timelines within which the CAISO and interested market participants must function, but requests that the CAISO assist efforts to fully understand the cross-functional impacts of proposed transmission projects and non-transmission alternatives.

As expressed above, J.P. Morgan lauds and appreciates the tremendous effort put forth by CAISO staff in developing these studies, and J.P. Morgan's comments are intended to be helpful.

ISO response: Based on the existing LCR process, the ISO has included all approved projects as of January 15, 2009 into the 2010 LCR base cases published on the ISO web site for stakeholder to review. Therefore it is clear that all processes are coordinated. JP

Morgan's request relates to projects approved by the ISO after the publication of 2010 LCR base cases and after the ISO has already started the studies; in this case the ISO has added any projects that impact LCR and which have an in-service date before June 1, 2010 to the studies after the draft results but before the final results were published. The ISO has met JP Morgan's request and believes there is nothing else the ISO could have done because the ISO can not include projects in the base cases before they get approved.

Conclusion

J.P. Morgan once again appreciates the opportunity to provide these comments on the CAISO's 2010 Local Capacity Technical Study and looks forward to reviewing the CAISO's draft final proposal, due to be published in early April.