

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Oversee the
Resource Adequacy Program, Consider
Program Refinements, and Establish Annual
Local Procurement Obligations.

Rulemaking 11-10-023
(Filed October 20, 2011)

COMMENTS OF THE UTILITY REFORM NETWORK
ON THE CAISO'S 2013 LOCAL CAPACITY TECHNICAL ANALYSIS,
FINAL REPORT AND STUDY RESULTS

Hayley Goodson
Staff Attorney



Lower bills. Livable planet.

The Utility Reform Network
115 Sansome Street, Suite 900
San Francisco, CA 94104
Phone: (415) 929-8876
Fax: (415) 929-1132
E-mail: hayley@turn.org

Kevin Woodruff
Woodruff Expert Services
1100 K Street, Suite 204
Sacramento, CA 95814

May 7, 2012

Consultant to TURN

**COMMENTS OF THE UTILITY REFORM NETWORK
ON THE CAISO'S 2013 LOCAL CAPACITY TECHNICAL ANALYSIS,
FINAL REPORT AND STUDY RESULTS**

I. INTRODUCTION

In accordance with the *Phase 1 Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judge* of December 27, 2011, The Utility Reform Network (TURN) submits the following comments on the CAISO's *2013 Local Capacity Technical Analysis, Final Report and Study Results (2013 Study)*, dated April 30, 2012.¹ TURN is offering comments on the *2013 Study's* findings regarding the Local Capacity Requirements (LCR) in the San Diego Gas & Electric Company (SDG&E) service territory. In brief, TURN believes the Commission should adopt LCR for the San Diego Sub-area of 2,192 MW instead of the CAISO's proposed amount of 2,714 MW.² The Commission should also direct SDG&E to present for consideration in this docket the "Safety Net" proposal that SDG&E has elsewhere suggested could be implemented to reduce the San Diego Sub-area LCR.

II. DISCUSSION OF 2013 LOCAL CAPACITY REQUIREMENTS

A. The Commission Should Adopt San Diego Sub-Area 2013 Local Capacity Requirements of 2,192 MW.

The *2013 Study* estimates the 2013 LCR for the San Diego Sub-area of 2,714 MW.³ The Commission should adopt a lower requirement of 2,192 MW to properly account for the impact of SDG&E's new Sunrise Powerlink (Sunrise) transmission line. Sunrise has an estimated in-service date next month.⁴ For the several years before construction, the CAISO told this

¹ The CAISO served the *2013 Study* May 2; the study is also available at http://www.caiso.com/Documents/Final2013LocalCapacityTechnicalStudyReportApr30_2012.pdf.

² See p. 100 of *2013 Study*.

³ *2013 Study*, p. 100.

⁴ See page 2 of SDG&E's THIRTEENTH QUARTERLY PROJECT STATUS REPORT OF SAN DIEGO

Commission that Sunrise would reduce the San Diego area LCR by 1,000 MW by increasing SDG&E's import limit from 2,500 MW to 3,500 MW.⁵ In making such predictions, the CAISO used the same methodology it uses to set the annual LCRs that this Commission has routinely adopted the past several years.

Support for assuming an increased import limit of 3,500 MW was provided just last month in the testimony of SDG&E witness Jan Strack in Application (A.) 11-05-023, in which he said:⁶

Studies conducted by SDG&E in connection with the Sunrise Powerlink proceeding indicate that aggregate imports into the San Diego area with the Otay Mesa combined cycle plant out of service can be at least 3,500 MW and it would still be possible to readjust the system and survive the subsequent outage of the 500 kV Imperial Valley-Miguel line. (A 3,500 MW simultaneous import level represents a 1000 MW increase above the 2,500 MW limit that exists prior to the energization of the Sunrise Powerlink.)

Given this higher, post-Sunrise limit, TURN expected the *2013 Study's* estimate of the San Diego Sub-area LCR to be approximately 2,217 MW. This figure of 2,217 MW equals 5,114 MW for San Diego's peak load, minus 3,500 MW of imports, plus 603 MW for the largest generation contingency (the Otay Mesa Power Plant).⁷ TURN believes the LCR of 2,192 MW shown on page 100 of the *2013 Study*, while slightly lower than our figure of 2,217 MW, is computed consistently with this assumption about the impact of Sunrise on SDG&E's import

GAS & ELECTRIC COMPANY, Q1 2012, filed April 16, 2012 in Application 06-08-010, available at <http://docs.cpuc.ca.gov/efile/CF/165304.pdf>.

⁵ See, for example, CPUC Decision (D.) 08-12-058 in Application (A.) 06-08-010, footnote 331, pp. 110-111. See also page 96 of the CAISO's *2013-2015 Local Capacity Technical Analysis Study*, published December 10, 2010, available at <http://www.caiso.com/287c/287ca3cc28a80.pdf>.

⁶ See page JS-8, lines 11-16, of the Prepared Supplemental Testimony of Jan Strack on behalf of San Diego Gas & Electric Company, served April 27, 2012 in Application 11-05-023. TURN's citation of Mr. Strack's testimony on this issue does not mean TURN endorses any other aspect of Mr. Strack's testimony or recommendations.

⁷ The peak load data and Otay Mesa capacity data are from pp. 98 and 100, respectively, of the *2013 Study*.

limit. Accordingly, TURN recommends its adoption as the San Diego Sub-area LCR. The Commission should reject the higher value of 2,714 MW now suggested by CAISO as inconsistent with the CAISO's past projections.

B. The Commission Should Direct SDG&E to Present in This Docket the “Safety Net” it Proposed to the CAISO to Mitigate the Impacts of Imposing a San Diego Sub-Area LCR Based on the Newly-Applied N-1-1 Criterion.

Following the CAISO's April 12, 2012 Stakeholder Meeting regarding the *2013 Study*, SDG&E submitted comments suggesting that a load shedding “Safety Net” could be implemented to reduce the San Diego Sub-area LCR computed using the “N-1-1” criterion that the CAISO now wishes to apply. SDG&E's comments and the CAISO's response are provided in Attachment 1 to these comments.⁸

TURN recommends that the Commission direct SDG&E to present its “Safety Net” proposal in this docket for consideration as soon as practicable, but at least in time for its consideration in parallel with the 2014 CAISO study process. The Commission should then evaluate whether the application of the N-1-1 criterion is appropriate for setting San Diego Sub-area LCRs and the reasonableness of SDG&E's proposal to mitigate the impact of the N-1-1 criterion, based on the trade-off between the higher cost of larger LCR procurement requirements and the additional risk of load shedding under an extreme scenario.

III. WARNING REGARDING THE INSTABILITY OF CAISO PROJECTIONS OF LOCAL CAPACITY REQUIREMENTS IN FUTURE YEARS

As noted above, the CAISO wishes to change its method for computing the impact of Sunrise on San Diego Sub-area LCRs. CAISO's apparent change of heart offers the

⁸ Attachment 1 is SDG&E's comments and the CAISO's reply on this issue. These comments are also available at <http://www.caiso.com/Documents/StakeholderComments-ISOResponses-DraftLCRresultsApr12-2013.pdf>.

Commission a lesson applicable to other dockets: it is very risky to allow ratepayer dollars to be invested based on presumed future LCR benefits because CAISO projections of LCRs in future years are not stable. The Commission can and should apply this lesson in any venue in which it considers the value of transmission or generation investments, such as the current Long-Term Procurement Plan Proceeding (R.12-03-014) and SDG&E's application for approval of contracts for three new gas-fired power plants (A.11-05-023).

IV. CONCLUSION

TURN thus urges the Commission to adopt a LCR for the San Diego Sub-area of 2,192 MW and to direct SDG&E to present for consideration in this docket its proposed "Safety Net" to mitigate the impacts of imposing a San Diego Sub-area LCR based on the newly-applied N-1-1 criterion. Further, the Commission should also keep firmly in mind the uncertainty of long-term LCR forecasts when considering potential large new investments in transmission or generation in future dockets.

Date: May 7, 2012

Respectfully submitted,

By: _____/s/_____
Hayley Goodson
Staff Attorney

The Utility Reform Network
115 Sansome Street, Suite 900
San Francisco, CA 94104
Phone: (415) 929-8876
Fax: (415) 929-1132
Email: hayley@turn.org

ATTACHMENT 1

SDG&E's Comments to the CAISO Suggesting a Load Shedding Scheme to Reduce San Diego Sub-Area LCRs Computed Using the "N-1-1" Criterion and the CAISO's Reply

**Written comments with CAISO reply
Submitted after the
April 12 Stakeholder Meeting regarding the
2013 Local Capacity Requirement (LCR) Results**

**SDG&E comments regarding CAISO's
2013 Local Capacity Technical Study Results**

The CAISO's April 9, 2012 "*2013 Local Capacity Technical Analysis, Draft Report and Study Results*" estimates 2013 Local Capacity Requirements (LCR) for the San Diego area at 2570 MW. The CAISO bases this need on the outage of 500 kV Imperial Valley-Suncrest line followed by the outage of the 500 kV ECO-Miguel line; a Category C event defined by an L-1 contingency, system readjusted, followed by another L-1 (C3). The CAISO assumes no controlled load drop. With 2570 MW of Net Qualifying Capacity available in the San Diego area, post-transient voltage instability is mitigated for this L-1-1 contingency event.

In the CAISO Board-approved 2011-2012 Transmission Plan the CAISO assumed 370 MW of controlled load drop to achieve voltage stability under a G-1/L-2 contingency event where the Otay Mesa combined cycle plant is off-line and there is a simultaneous outage of the 500 kV Imperial Valley-Suncrest and 500 kV Imperial Valley-ECO lines. Post-transient voltage instability for the L-1-1 outage of the 500 kV Imperial Valley-Suncrest line followed by the outage of the 500 kV Imperial Valley-Miguel line can also be mitigated with controlled load drop. Controlled load drop is acceptable mitigation for reliability criteria violations under CAISO, WECC and NERC reliability criteria and is widely used throughout the WECC. The CAISO's current LCR manual supports the use of controlled load drop. The CAISO's January, 2012 "*Final Manual, 2013 Local Capacity Area Technical Study*" on page 14 states:

"Category C conditions exist after the second contingency has occurred. At this time, firm load shedding is allowed in a planned and controlled manner."

SDG&E will have a planned and controlled load drop scheme in place when the Sunrise Powerlink goes in service. This scheme will protect against voltage instability for any L-2 or L-1-1 contingency event involving the Sunrise Powerlink and the Southwest Powerlink. See the attached letter documenting the planned implementation of this scheme.

The use of 378 MW of load shedding would reduce the LCR for the San Diego area to 2192 MW; the amount of Net Qualifying Capacity in the San Diego area needed to avoid post-transient voltage instability for the outage of the Otay Mesa combined cycle plant, followed by the outage of the 500 kV Imperial Valley-Miguel line. This is a Category B event defined by a G-1 contingency, system readjusted, followed by an L-1 contingency (G-1/L-1).

With 378 MW of load shedding in place, the LCR for the Greater Imperial Valley-San Diego area would be unchanged at 2939 MW, but the LCR for the San Diego area would be reduced to 2192 MW.

ISO response: The ISO does not consider it acceptable to rely on load shedding to mitigate the Category C outage of N-1-1 at this time because there is no suitable Special Protection System designed or currently in place. The safety net SDG&E has proposed to be in service for the summer of 2012 is not acceptable under existing criteria for mitigating Category C contingencies. Further, the ISO's decision to plan its system to operate available generation to ensure stable operation of the system following the loss of Sunrise and IV-Miguel without reliance on an Special Protection Scheme will minimize the risk of cascading outages due to disturbances on the grid and unreliable system conditions such as those that have occurred in recent years in the San Diego area. The ISO acknowledges that the San Diego-Imperial Valley area 2013 LCR needs would not change at 2939 MW, therefore the LCR allocation to each LSEs would not change.

While controlled load drop will mitigate the identified post-transient voltage instability, other solutions are available. SDG&E recommends that in the CAISO's 2012-2013 Transmission Planning Process (TPP), the CAISO should revisit the conclusion in the

CAISO's 2011-2012 Transmission Plan deferring several synchronous condensers proposed for the San Diego area to later rounds of the TPP process. SDG&E's and the CAISO's own studies indicate that the synchronous condensers would be effective in improving post-transient voltage stability, thereby minimizing the possibility that controlled load drop would ever be used

ISO response: The ISO will continue to comprehensively review the need for San Diego area reliability driven transmission upgrades, including dynamic reactive support, under various resource development scenarios in the Transmission Planning Process (TPP).

SDG&E appreciates the CAISO providing for the first time an analysis of seasonal LCR needs for the San Diego area. These preliminary studies provide valuable information that can be discussed at the CPUC in RA proceedings. Several questions still remain, such as should October be considered a maintenance month, but this study will help focus future discussions. There appears to be indications that further refining maintenance months assumptions could prove beneficial for customers in the San Diego area. SDG&E looks forward to pursuing seasonal LCR needs further.

ISO response: The "non-peak" season 2013 LCR results show a higher need in the off-peak months than the peak months. This supports the ISO's belief that no cost savings to ratepayers would be achieved by implementing seasonal LCR requirements. As stated in the ISO's LCR report, the "non-peak" season LCR results are for stakeholder information only, and the LSE LCR allocation will be based on the peak system results to conform to the ISO Tariff.

Attached SDG&E letter:

Subject: Planned Installation of a “Safety Net” to Address Severe Category C and D Contingencies in the San Diego Sub-Area

Dear Mr. Sparks:

The purpose of this letter is to confirm San Diego Gas & Electric’s planned installation of a “Safety Net”, which will shed load to address certain severe Category C and D contingencies that affect the San Diego sub-area. The general parameters of this safety net have been discussed in other forums, including the Sunrise Powerlink CPCN application and the 2011/2012 Transmission Planning Process. The details of this “Safety Net”, and a proposed implementation schedule, follow in the body of this letter.

The purpose of the “Safety Net” is to mitigate the effects of the two most severe Category C and D contingencies that will affect the San Diego transmission system following the addition of the Sunrise Powerlink:

- 1) The simultaneous N-2 contingency of the Imperial Valley-Miguel and Imperial Valley-Suncrest 500 kV lines - Category D
- 2) The non-simultaneous N-1-1 contingency of the of the Imperial Valley-Miguel and Imperial Valley-Suncrest 500 kV lines – Category C

The first contingency is more severe, in that the contingency assumes no ability to adjust generation dispatch between the loss of the first and second lines. The loss of both lines drastically reduces the ability to import power in the San Diego load center and at sufficiently high levels of load and import places the system at a risk of voltage collapse. This was confirmed by the transmission planning studies underlying the CAISO’s 2011/2012 Transmission Plan. The planned load shedding scheme mitigates the risk of voltage collapse by reducing San Diego load and thus import below the maximum level that can be supported by the transmission system. This load reduction would occur immediately in the event of the N-2, but would occur for the N-1-1 only in the event of the second contingency under certain load levels.

The “Safety Net” will be designed to monitor flows on the five 230 kV South of SONGS lines that comprise Path 44. The “Safety Net” will be armed when San Diego load reaches or is forecast to reach levels that would be sufficient to cause the risk of voltage collapse if the events described above occur. When Path 44 flows exceed a level that would indicate that both 500 kV lines from Imperial Valley to the San Diego load center have tripped, the “Safety Net” will shed load in San Diego.

The aggregate amount of load shedding is approximately 800 MW, but will vary by system load level. This would be sufficient to reduce the import from a nominal operating limit for 2013 of 3500 MW to 2700 MW during 90/10 heavy summer conditions. This is below the current acceptable N-1 import level without Sunrise (2850 MW, limited by the N-1 of Imperial Valley-Miguel 500 kV line).

SDG&E plans to have this “Safety Net” in service by **June, 2012**. The schedule is driven by the addition of the Sunrise Powerlink and the risk of an extended outage of the SONGS generation during summer peak 2012; however, the “Safety Net” is planned to remain in service permanently following the return of the SONGS units. The “Safety Net” will be updated periodically to reflect future system changes, which may include adjustments to the SONGS Separation Scheme, addition of dynamic reactive power resources, retirement of generation resources, and so forth.

Please feel free to contact me if you have any further questions.

Sincerely,

Signed

John M. Jontry, P.E.