

Docket:	:	<u>R.12-03-014</u>
Exhibit Number	:	<u>ORA x CAISO 2</u>
Commissioner	:	<u>Michel Florio</u>
Admin. Law Judge	:	<u>David Gamson</u>
	:	
	:	

ISO Responses One and Two to First Set of Data Requests of the
Division of Ratepayer Advocates in A.11-05-023



California ISO
Shaping a Renewed Future

California Independent System Operator

VIA ELECTRONIC MAIL

April 24, 2012

Candace Morey
Staff Counsel
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

**Re: ISO Response to the First Set of Data Requests of the Division of Ratepayer Advocates in
Docket No. A.11-05-023**

Dear Ms. Morey:

Enclosed please find the California Independent System Operator's response to the first set of data requests served by the Division of Ratepayer Advocates.

Please feel free to call me if you have any questions.

Sincerely,
/s/ Judith B. Sanders
Judith B. Sanders
Senior Counsel
California Independent System
Operator Corporation

BEFORE
THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of San Diego Gas & Electric
Company (U 902 E) for Authority to Enter into
Purchase Power Tolling Agreements with
Escondido Energy Center, Pio Pico Energy
Center and Quail Bush Power

A.11-05-023

RESPONSE OF
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
TO THE DIVISION OF RATEPAYER ADVOCATES'
FIRST SET OF DATA REQUESTS

Below are responses on to the First Set of Data Requests served by the Division of Ratepayer Advocates.

RESPONSE

Request No. DRA-CAISO-01.

1. For the N-1-1 contingency cases listed in the table on page 3 of Mr. Sparks' Supplemental testimony of April 6, 2012, please provide the following information:
 - a. Describe the specific post-initial-contingency adjustment actions that were instituted in the modeling after the first contingency and before the second contingency. How do the adjustment actions affect the MW of LCR or OTC need?
 - b. How many MW of Demand Response resources are assumed "on line" at the time of the first contingency?
 - c. Is any additional Demand Response included in adjustments after the first contingency event? If so, how much?
 - d. The results show slightly lower LCR and OTC need under the "voltage collapse" limiting constraint case, compared to the 8,000 amp Path 44 case. Which of these two cases does CAISO consider to be the determining case for the purpose of LCR and OTC need estimation, or does the CAISO believe the 7,800 amp limit on Path 44 is the determining case? Please explain the CAISO's response.
 - e. Is the Path 44 limit based on an 8,000 or 7,800 amp restriction?



- f. Referring to page 4, lines 7-8, what is the basis for the CAISO's use of a 2.5% margin used during this planning exercise?

ISO RESPONSE TO No. DRA-CAISO-01.

- a. The primary adjustment after the first contingency is to dispatch fast start generation. Reactive power resources and transformer taps are also adjusted to restore voltage schedules. Reactive power provided by transmission facilities can incrementally offset LCR needs in some situations.
- b. The load was not reduced for demand response in the OTC and LCR studies and it was not treated as an existing resource in these studies. However, demand response can be utilized to count towards reducing local capacity needs in the year-ahead resource adequacy process. It can also be used to reduce involuntary load shedding when the Demand Response can respond fast enough.
- c. Please see response to DRA-CAISO-01b above.
- d. This was discussed in the workshop and the most limiting constraint is considered to be the determining case. The 7800 Amp limit represents a 2.5% margin from the 8000 Amp limit. For category C voltage stability limits, a 2.5% margin is required due to the inability of operators to act in time to arrest a voltage collapse. Because operators cannot act in time to prevent the activation of the SONGS separation scheme, a 2.5% margin is considered to be prudent.
- e. The 2500 MW Path 44 limit only applies when SWPL is already out of service. With Sunrise it would apply when both Sunrise and SWPL are already out of service. The 8000 Amp limit is not binding with Path 44 flow maintained at 2500 MW.
- f. Please see response to DRA-CAISO-01e above.

Request No. DRA-CAISO-02.

2. Please refer to page 4, lines 18-19 of Mr. Sparks' Supplemental testimony of April 6, 2012.
- a. Does the CAISO planning allow for any level of load shed after the second contingency of an N-1-1 event?
- b. Did the CAISO test the effects on LCR and OTC needs shown on page 3 of using an automatic load shedding scheme after the second contingency in its N-1-1 cases? If yes, explain how this would affect the resulting LCR and OTC needs.

2

- c. If the CAISO tested the effect of an automatic load shedding scheme for the N-1-1 contingency, would that decrease the LCR and OTC need estimates shown on page 3? By approximately how much would it decrease the need estimates?
- d. What is the probability of occurrence of an N-1-1 contingency event occurring during a simultaneous G-1 contingency and 1-in-10 peak load circumstance? Provide all documents that support, refute, or otherwise relate to the determination of the likelihood of occurrence.

ISO RESPONSE TO No. DRA-CAISO-02.

- a. With all generation available at full capacity, the ISO would operate this generation to avoid the need to shed load for the Sunrise/IV-Miguel overlapping outage event. Load shedding would be utilized to address scenarios with reductions in resource availability due to generation outages that occurred prior to, during or after a Sunrise/IV-Miguel overlapping outage event.

The ISO is required to plan its network so that it can be operated to supply projected customer demands for N-1-1 events regardless of their probability. 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 in place at this time. Further, the ISO 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 is to minimize the risk of cascading outages due to disturbances on the grid and unreliable system conditions such as those that have occurred too frequently in recent years in the San Diego area. The September 8, 2011 disturbance is one example in addition to recent outages caused by fires, and major equipment failures.

- b. Please see response to DRA-CAISO-02a above.
- c. Load shedding would be utilized to address scenarios with reductions in resource availability due to generation outages that occurred prior to, during or after a Sunrise/IV-Miguel overlapping outage event. For every MW of unavailable generation, approximately one MW of load would need to be shed. Alternatively, one MW of demand response could also be utilized.
- d. Because Sunrise does not have any operating or outage history, we do not have applicable data to estimate the probability of this contingency event.

3