THE UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

California Independent System)
Operator Corporation) Docket No. ER 12-

PETITION FOR WAIVER OF TARIFF PROVISIONS

The California Independent System Operator Corporation ("CAISO") respectfully requests a waiver[1] of certain provisions of the CAISO tariff, to the extent that the Commission concludes that the CAISO acted beyond its tariff authority, in connection with its setting of administrative prices in response to a southern California system emergency on September 8 and 9, 2011. The CAISO believes its response to the system emergency was consistent with the CAISO tariff provisions for addressing system emergencies and ensuring reliability and also necessary to manage and minimize the extent of the emergency. If the Commission concludes that the CAISO's response was inconsistent with the tariff provisions, however, the CAISO submits that there is good cause for a waiver. The CAISO's actions were taken in a good faith belief that they were consistent with the CAISO tariff and necessary to restore system operations following the largest power outage in the western United States since 1996.

The CAISO also seeks a waiver to the extent that the Commission concludes that the CAISO is acting beyond its tariff authority regarding the CAISO's settlement of the real-time market as applied to resources—both generation and load—that were tripped as a result of the system emergency.

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[1] The CAISO submits this filing pursuant to Rule 207 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.207.

The CAISO believes that generation and load resources in the San Diego area that were forced to trip during the system emergency experienced a *force majeure* event and should therefore be held harmless in connection with their failure to deliver or consume in accordance with their day-ahead schedules. If the Commission finds that this conclusion is inconsistent with the CAISO tariff, the CAISO submits that there is good cause for a waiver. The requested waiver is of limited scope, has no undesirable consequences, and results in evident benefits to customers.

I. BACKGROUND

The Southwest Power Link ("SWPL") is a 500 kV transmission line that runs from the Palo Verde/Hassayampa Substation in Arizona to the Miguel Substation in San Diego County, California. It is the major source of imported power for the San Diego Gas & Electric Company's service territory.

At 3:27 p.m. on September 8, 2011, the Hassayampa-North Gila segment of SWPL tripped. By 3:38 p.m., 22 generating units and 24 qualifying facilities in the San Diego area and one generator in the Southern California Edison area had tripped. Also, the tie-line to the San Onofre Nuclear Generating Station ("SONGS") separated, which removed both San Diego Gas & Electric Company's share of SONGS and imports through the SONGS bus. Approximately 2.78 million end-use customers lost service. This represented approximately 7,900 megawatts of load within the service territories of San Diego Gas & Electric Company and the neighboring balancing authority areas of Imperial Irrigation District, Arizona Public Service Company, Western Area Power

Administration – Lower Colorado Region, and Comisión Federal de Electricidad. Approximately 4,300 megawatts of load were lost in the San Diego Gas & Electric Company service territory. Generating units in the southwest loaded to a total of 7,032 megawatts, tripped off during this disturbance. A total of 4,657 megawatts of generation in southern California tripped, including the SONGS units, and approximately 1,400 megawatts of imports into the San Diego area immediately tripped. The causes of this event remain under investigation, but are irrelevant for purposes of this tariff waiver request. The CAISO declared a system emergency and notified scheduling coordinators via the electronic Market Notification System at 4:19 p.m.

As discussed in the accompanying declaration of Ms. Deborah A. Le Vine (Exhibit 1), when the CAISO ran the real-time market following these events, the software produced extremely anomalous results. Because the software assumed that load and generation remained available in the San Diego area, it produced prices reflecting extreme but inaccurate congestion. Figures 1 and 2 in the declaration of Mr. Mark A. Rothleder (Exhibit 2) show the difference between actual load and real-time load forecasts system-wide and in the San Diego area from 12:00 a.m. on September 8, 2011, to 3:00 a.m. on September 9, 2011. These anomalies continued over several hours. During the initial period, the locational marginal prices produced by the market in the San Diego area were as high as $24,410, while prices in the rest of the state were as low as negative $782. Exhibit 1A, accompanying Ms. Le Vine's declaration, shows the real-time market results during the period of the emergency. These prices provided completely wrong and inconsistent price signals: in the San Diego area, load and generation were completely disconnected yet prices were extremely high, whereas the rest of the CAISO-controlled grid needed resources to stay available, yet the prices were extremely low. Mr. Rothleder ‘s declaration explains the reasons for these market results.

During hours ending 1700 and 1800 (from 4:00 – 6:00 p.m.), the CAISO instructed generating units through the Market Notification System to remain at their day-ahead schedules and issued verbal exceptional dispatches for additional energy. Because the software was not producing results consistent with the actual conditions during those periods, the CAISO is settling the real-time market using the locational marginal price from the last interval prior to the market dysfunction (hour ending 1600, interval 10), consistent with sections 7.7.4 and 35 of the ISO tariff.[2]

As Mr. Rothleder explains, the CAISO concluded that it needed upwards of 42,500 megawatts of generation in order to both maintain reliable operations outside of the San Diego area and be able to restore normal system operation

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[2] Pursuant to section 7.7.15.1, administrative pricing applies to market disruptions. Market disruptions include software failures (where there are no market results for the interval) and blocked intervals (where market results are generated, but rejected by CAISO system operations as inconsistent with actual requirements). As discussed in this petition, section 7.7.4 specifies that administrative prices are the prices in the immediately preceding settlement period. Section 35 sets forth the CAISO’s price validation and correction authority and applies in the absence of a market disruption. Prices may be corrected in one or more methodologies, including using the price from the immediately preceding settlement period when price correction is warranted. During the time period prior to the suspension, software failures and blocks occurred. For these intervals, administrative pricing applies. The CAISO is using its Price correction authority for the balance of the intervals during the pre-suspension. The CAISO is using the same price—the price for hour ending 1600, interval 10, for both administrative pricing and price correction purposes. Administrative pricing applies to the period the market was suspended. As discussed in this waiver request, the ISO is proposing to use the published prices of $250 and $100 for the time period the market was suspended.

within the San Diego area. The CAISO also concluded that it was impractical to attempt to ensure the availability of the capacity solely through reliance on day-ahead schedules and verbal exceptional dispatches and that the default administrative price (the locational marginal price from the last interval prior to the software dysfunction) would not suffice to provide an incentive for sufficient generation capacity to remain online to enable restoration of service once the SWPL issue was resolved. Therefore, effective 6:00 p.m. on September 8, 2011, the CAISO suspended the wholesale real-time market. At that time, the CAISO revised the default administrative price to $250 per megawatt hour. As explained by Ms. Le Vine and Mr. Rothleder, the CAISO concluded, based on the available information and the collective experience of Ms. Le Vine and Mr. Rothleder, that such a price was necessary in order to provide the necessary price signal to market participants. They took this action in reliance on CAISO operating procedures that stated that they had the authority to revise the administrative price.[3] Subsequent review of the bid quantity data has shown that only approximately 35,600 megawatts of generation bids plus a total net interchange of approximately 7,500 megawatts for total supply of approximately 43,100 megawatts were available for under $250 per megawatt-hour during the period in

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[3] The operating procedure in effect at the time is attached to Ms. Le Vine's declaration as Exhibit 1B. Out of an abundance of caution, the CAISO has revised this operating procedure to remove the authority to revise the administrative price to a price different from the price of the immediately preceding settlement interval. The revised operating procedure is available at the following link: https://records.oa.caiso.com/sites/opsprocedures/Operations%20Procedures/1710.docx.

question. Figure 3 in Mr. Rothleder's declaration provides the total supply including the generation bid curve for hours ending 1600 through 2000.

The CAISO notified the market of the suspension through the Market Notification System at 6:02 p.m.[4] The CAISO directed market participants to remain at their current output unless dispatched to a different level. The CAISO informed market participants that the CAISO had suspended its automatic dispatch system and would be providing verbal dispatches until further notice. The CAISO also asked market participants to continue to submit bids to facilitate restoration of the market once the grid was restored. At 6:08 p.m., the CAISO instructed the interties via the Market Notification System to follow their automatic dispatch system dispatches for hour-ahead scheduling process instructions for hour ending 2000. The CAISO repeated this instruction for hours ending 2100, 2300, and 2400 and for hours ending 0100 and 0200 on September 9th. For HASP on September 8th for hour ending 2000 through hour ending 2100, hour ending 2300 through hour ending 2400 and all hours on September 9th, the ISO relied upon the awarded megawatts, notwithstanding the suspension, for arranging the interties after the net interchange value produced was reviewed. On September 8th, for HE22, no hour-ahead scheduling process results were published.

At 8:56 p.m., based on system conditions and reduced demand, the CAISO provided a notice via Market Notification System that it had reduced the

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[4] The CAISO Communications provided an additional market notice to that effect at 7:05 p.m.

administrative price to $100 per megawatt hour, effective at 10:00 p.m.[5] During the subsequent period, the CAISO monitored the operation of the market systems and, after it appeared that the software was taking the islanding of the San Diego area into account and presenting valid results, the CAISO restored the market outside the San Diego area. At 12:26 a.m., the CAISO provided notice via the Market Notification System that, effective 1:00 a.m. on September 9th, the CAISO was resuming market operations, and terminating the administrative price with the exception of the San Diego service area. The CAISO instructed scheduling coordinators for resources outside of the San Diego area to start following the automatic dispatch system at that time.

The San Diego Gas & Electric transmission system was restored by 1:39 a.m. and all utility customers had their electricity restored by 3:25 a.m. on September 9th. Based on these developments, the CAISO terminated the administrative price in the San Diego area effective 4:00 a.m. and resumed normal operations. The CAISO notified scheduling coordinators via Market Notification System at 3:26 a.m.[6] At 9:58 a.m., the CAISO cancelled the system emergency.

At 11:36 a.m. on September 9th, the CAISO notified the market that it was analyzing the pricing and settlement implications of the real-time market suspension and would communicate the results as soon as possible. In a market

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[5] The CAISO Communications provided an additional market notice to that effect at 10:03 p.m.

[6] The CAISO Communications issued an additional market notice of system restoration at 9:38 a.m.

notice at 1:55 p.m. on September 13th, the CAISO set forth tables explaining the settlement implications as follows:

September 8, 2011

Hour/Interval	Market	Pricing
HE 17 interval 4 - HE 18 interval 12	Real-time dispatch (RTD)	Interval Replacement using HE 16 interval 10.
HE 19 - 22 (all intervals) for all nodes	RTD and Hour-ahead scheduling process (HASP)	Administrative Pricing: Locational Marginal Price (LMP) = $250, energy = $250, congestion = $0 and losses = $0.
HE 23 - 24 (all intervals) for all nodes	RTD and HASP	Administrative Pricing: LMP = $100, energy = $100, congestion = $0 and losses = $0.
HE 17 – 24	Real-Time Pre Dispatch (RTPD)	RTPD A/S prices = Day-ahead (DA) A/S prices
HE 19 – 22	HASP Ancillary Service (A/S)	HASP A/S prices = DA A/S prices

September 9, 2011

Hour/Interval	Market	Pricing
HE 1 (all intervals) for all nodes	RTD and HASP	Administrative Pricing: LMP = $100, energy = $100, congestion = $0 and losses = $0.
HE 2 - 4 (all intervals) for nodes mapped to SDGE UDC territory only	RTD and HASP	Administrative Pricing: LMP = $100, energy = $100, congestion = $0 and losses = $0.
HE 1	RTPD and HASP A/S	RTPD and HASP A/S prices = DA A/S prices

At 7:39 p.m. on September 9th, the CAISO Communications published an updated market notice, further revising certain settlement principles applicable during the period that the $250 and $100 administrative prices were in effect based on the force majeure nature of the event. For generation and load resources that were forced to trip due to the event, the CAISO explained that it would correct the real-time 5-minute locational marginal price to match the day-ahead locational marginal price for the corresponding time interval. For those generation resources that subsequently exceeded their day-ahead schedule upon returning on-line due to the event, the energy above their day-ahead schedules would be settled at the administrative price that was set. For intertie resources curtailed in the San Diego area, the CAISO would correct the resource specific real-time locational market price to match the resource-specific day-ahead locational marginal price for the corresponding time interval.

At the September 14, 2011, Market Performance and Planning Forum, the CAISO discussed the event with market participants. On September 20th, the CAISO Communications issued a market notice providing responses to questions raised at the Market Performance and Planning Forum.

In addition, the CAISO has performed a market analysis, based on "trading day plus seven" data reflected in the settlement statements issued on September 19 and 20, 2011,[7] of the cost impact of the implementation of the $250 and $100 special administrative prices and of holding tripped generation

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[7] The T+7 settlements are based in part on estimates. Future settlement statements incorporate updated data, specifically meter data, in the T+38 business day settlement.

and load harmless (Base Scenario), comparing those results to a scenario in which the CAISO used the announced administrative prices but did not hold tripped generation and dropped load harmless (Scenario I), and with a scenario in which the CAISO use the “last best price,” including for tripped generation and dropped load (Scenario II).[8] The results of these comparisons are included in Exhibits 3A, 3B and 3C.

As shown in Exhibit 3A, in the Base Scenario, during the hours that the CAISO suspended the market, total payments to the market (shown as a negative) were $3,683,369. This amount consists primarily of bid cost recovery (to generation and imports), exceptional dispatch (to generation and imports), imbalance energy (to generation and imports), and imbalance energy (to load and exports). Total charges to measured demand (load and exports) were $3,618,446.[9] These charges consist primarily of bid cost recovery, exceptional dispatch, and the real-time energy offset.

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[8] For purposes of Scenario II, the CAISO used the last best real-time price (System Marginal Energy Cost component) for the real-time settlement intervals, which was $44 per megawatt-hour**.** For the hour-ahead scheduling process, the CAISO used the day-ahead price (System Marginal Energy Cost component), which was $85.07 per megawatt-hour. Because the Scenario II calculations applied the “make whole” tariff requirements, the effective average hour-ahead scheduling process price used in Scenario II was $37 per megawatt-hour. The decision to use the day-ahead price was based on the more typical scenario of an hour-ahead scheduling process failure where there are no market results and, therefore, no schedules and no prices. When this occurs, the ISO relies on day-ahead results. However, in the situation where there are hour-ahead scheduling process results, but the CAISO has disrupted the market through a market suspension, the last best price for the hour-ahead scheduling process should have been used. That price is approximately $41 per megawatt-hour on average. Because the last best hour-ahead scheduling process price and the “effective” day-ahead price are similar, the ISO believes that Scenario II is a reasonable estimate of the market impact of using the administrative prices in accordance with CAISO tariff section 7.7.4.

[9] The difference is due to other charges not affected by the suspension of the market.

Exhibit 3B shows that under Scenario I, the total payments are $2,597,071 and the total charges are $2,565,281. Although both totals are slightly over $1,000,000 less than in the base scenario, the biggest difference is in imbalance energy payments. Because tripped generation is charged for undelivered energy at the administrative price, generation and imports that are paid $1,831,094 under the Base Scenario would pay $2,703,809 for imbalance energy under Scenario I. Similarly, load and exports that are paid $1,444,336 for imbalance energy under the Base Scenario would be paid $4,765,811, and charges for real-time energy offset would be reduced from $3,210,508 to $2,030,212.

Under Scenario II, in which charges are based on the last best price rather than the announced administrative prices, the total payments are $1,005,829, and the total charges are $827,969. The greatest changes from the Base Scenario are in imbalance energy payments to generation and imports and in real-time energy offset changes to load. Where generators and imports receive $1,831,094 for imbalance energy under the base scenario, they pay $755,629 in Scenario II. Real-time energy offset charges to load and exports are reduced from $3,210,508 to $362,302. In summary, the estimated total market cost of the ISO’s settlement using force majeure and the announced administrative price to the market is approximately $2.8 million (the difference between the Base Scenario and Scenario II totals). Exhibit 3C shows the allocation of real-time energy offset under the Base Scenario based on the service territories of the three investor-owned participating transmission owners (including embedded service territories).

Virtually all of the additional cost due to the use of the Base Scenario is borne by the load and exports that continued to receive service during the system emergency. Although Scenario II reflects a lower total cost to the market, it would only be by virtue of an inequitable wealth transfer from tripped generation resources to tripped load

II. REQUEST FOR WAIVER OF CAISO TARIFF PROVISIONS TO THE EXTENT THE COMMISSION FINDS THE CAISO'S ACTIONS INCONSISTENT WITH THE CAISO TARIFF.

This filing concerns two separate decisions of the CAISO in response to the southern California emergency: (1) the CAISO's decision to establish administrative prices at $250 per megawatt hour and then to lower the price to $100 per megawatt hour; and (2) the CAISO's decision to hold harmless for their failure to comply with their day-ahead schedules the generation, imports, exports and load resources in southern California that were forced to trip due to the event. As discussed below, each of these actions implicates a different provision or provisions of the CAISO tariff, but the CAISO believes that both these actions were within its authority under the CAISO tariff. To the extent that the Commission concludes that either of these actions was inconsistent with the CAISO tariff, however, the CAISO respectfully requests a waiver of the relevant tariff provisions.

A. Administrative Price

Section 7.7.4 of the CAISO tariff authorizes the ISO to intervene in the market and set an administrative price in the event of a system emergency. Subsection (3) provides that the administrative price will be set "at the applicable price in the Settlement Period immediately preceding the Settlement Period in which the intervention took place."

The CAISO believes that subsection 7.7.4(3) should be read in light of the CAISO's broader authority in section 7.7.2. That section provides, in relevant part:

> In the event of a System Emergency, the CAISO shall take such action as it considers necessary to preserve or restore stable operation of the CAISO Controlled Grid. The CAISO shall act in accordance with Good Utility Practice to preserve or restore reliable, safe, and efficient service as quickly as is reasonable possible.

Because section 7.7.4(3) addresses only the setting of the administrative price and does not prohibit revising it, the CAISO believes that section 7.7.2 should be read to permit revision of the administrative price if the CAISO "considers necessary to preserve or restore stable operation of the CAISO Controlled Grid." Such a situation would arise, as it did on September 8th, when the CAISO needed to maintain sufficient capacity online in order to "restore reliable, safe, and efficient service as quickly as is reasonably possible," but it is not feasible to issue exceptional dispatches to all the resources necessary to provide the capacity and energy. This conclusion regarding the CAISO's authority is reinforced by review of section 42.1.5, which provides:

> [I]f the CAISO concludes that it may be unable to comply with the Applicable Reliability Criteria, the CAISO shall, acting in accordance with good utility practice, take such steps as it considers necessary to ensure compliance, including the negotiation of contracts through other than competitive solicitations. These steps can include the negotiation of contracts for Generation of Ancillary Services on a Real-Time basis.

It would be anomalous to conclude that the CAISO may negotiate individual contracts, outside the market, to ensure reliability when it cannot meet reliability criteria, but cannot achieve the same end by offering an administrative price when the need for expedited action in a system emergency precludes individual negotiations.

If the Commission nonetheless concludes that the CAISO's setting of the administrative price and its subsequent revision to $250 and then to $100 was beyond the CAISO's tariff authority, then the CAISO requests a waiver of section 7.7.4(3). As the Commission has noted, (1) it has historically granted waiver requests where an emergency situation or (2) an unintentional error was involved.[10]

In this instance, the CAISO's actions met both of the alternative criteria. First, the CAISO was unquestionably addressing an emergency situation. The CAISO was faced with the largest load-shedding event since 1996 – 4,300 megawatts – and needed sufficient generating capacity to maintain reliability outside of the San Diego area and restore the generation and load that had tripped. With the market systems not producing reliable results, and because of the need to maintain generation online that was sufficient to perform these tasks for such a large area, it was not feasible to rely solely on exceptional dispatch. Rather, it was necessary to provide an appropriate incentive through prices.

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[10] *Cal. Indep. Sys. Operator Corp.,* 118 FERC ¶ 61,226 at P 24 (2007) *citing ISO New England*, 117 FERC ¶ 61,171 at P 21(2006) (allowing a limited and temporary suspension of tariff provision to correct an error); *Great Lakes Gas Transmission Ltd. Partnership*, 102 FERC ¶ 61,331 at P 16 (2003) (granting emergency waiver involving force majeure event granted for good cause shown); and *TransColorado Gas Transmission Co.,* 102 FERC ¶ 61,330 at P 5 (2003) (granting waiver for good cause shown to address calculation in variance adjustment).

Although Ms. Le Vine and Mr. Rothleder were acting based on their experience, the existing operating procedure and the bid information that was available in real-time, the data demonstrates that their decision was necessary and consistent with section 7.7.2. As explained in Mr. Rothleder' s declaration, the CAISO peak load prior to the event was 43,292 megawatts of which approximately 4,300 megawatts was the demand for the San Diego area[11]. Even with the loss of 4,657 megawatts of generation in southern California, the CAISO would still need to continue to serve over 39,000 megawatts throughout the remainder of the balancing authority area. Further, the CAISO concluded that it would need approximately 42,800 megawatts of available supply to restore load. Moreover, once a generator trips an inspection needs to be performed to ensure that the unit has not been damaged prior to its restart. Thus, there was no certainty that when the load was restored generation internal to San Diego would be available to serve the load. Even if one considers the net interchange of approximately 7,500 megawatts that was available in hour ending 1800, the CAISO could only have supported approximately 40,700 megawatts at the last best price of approximately $54. At the $250 administrative price, the CAISO could have supported approximately 43,100 megawatts. Setting an administrative price to establish the appropriate price signal was the reasonable means to maintain sufficient generation under the circumstances.

Second, to the extent that revising the administrative price was inconsistent with the CAISO tariff, the CAISO's action was the result of an

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[11] While the peak load of 43,292 megawatts occurred just prior to the event, forecasted load indicated that the CAISO peak would have likely been near 44,000 megawatts had the event not occurred.

unintentional error. Section 7.2 of the CAISO tariff requires to CAISO to follow operating procedures in order to maintain the reliability of the CAISO controlled grid. As Ms. Le Vine explains, she, in consultation with Mr. Rothleder, the CAISO's Executive Director of Market Analysis and Development, acted in reliance on Operating Procedure 1710, which explicitly states that she has the authority to revise the administrative price. Neither she nor Mr. Rothleder was aware that the CAISO tariff did not contain such explicit authority.

The CAISO's revision of the administrative price thus meets the Commission's criteria for a waiver. Moreover, it meets the criteria that the Commission has adopted for waivers in other circumstances: the requested waiver is of limited scope, results in evident benefits to customers, and has no undesirable consequences.[12]

The requested waiver is of limited scope, because it would apply only from hour ending 1900 on September 8, 2011 to hour ending 0400 on September 9, 2011. Because the waiver would be retroactive, and of such a limited scope, it cannot reasonably be addressed through a tariff amendment. As noted below, however, the CAISO does intend to evaluate possible tariff amendments to address this type of circumstance in the future.

The benefits to customers are readily apparent. By establishing the administrative price, the ISO was able to maintain generation that was sufficient to restore normal system operations within ten hours. Generation responded to the price signal provided by the CAISO. Resources with bid prices near $250

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[12] *Southern Cal. Edison Co.*, 125 FERC ¶ 61,009, at P 17 (2008) (citing *Cal. Ind. Sys. Operator Corp.*, 124 FERC ¶ 61,031 (2008), and *Cal. Ind. Sys. Operator Corp.*, 118 FERC ¶ 61,226 (2007)).

were actually responding to ISO instructions. To now inform generation that it will not be paid according to the price signal would not only be inequitable, but would interfere with future efforts to attract generation during a system emergency and could thereby jeopardize reliability.

Finally, the market impact supports the conclusion that there are no undesirable consequences. As discussed above, the estimated total cost to the market is approximately $2.8 million (the difference between the Base Scenario and Scenario II totals). Virtually all of these costs are reflected in the real-time energy offset and, as noted above, allocated to the load and exports that continued to receive service during the system emergency. Finally, although Scenario II reflects a lower total cost to the market, it would only be by virtue of a wealth transfer from tripped generation resources to tripped load.[13]

Accordingly, the CAISO believes that a waiver of section 7.7.4(3) of the ISO tariff is necessary and appropriate under Commission precedent.

B. Tripped Generation and Firm Load

Section 11.5.2 of the CAISO tariff governs settlement of the real-time market. As a general matter, the tariff settles uninstructed imbalance energy, *i.e.,* uninstructed deviations from day-ahead schedules, at the real-time price (absent a market intervention, the locational marginal price). During the system

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[13] As set forth in the Rothleder declaration, the net settlement for virtual or convergence bidders in the Base Scenario reflects a net loss of $14,000. The net settlement for virtual bidders in Scenario II reflects a net loss of $127,000. Thus, virtual bidders as a whole would have lost $113,000 more in Scenario II compared to the Base Scenario, although some market participant result reflect gains or losses in the Base Case that are either higher or lower than in Scenario II. The overall settlement for virtual bidders for the entire day of September 8, 2011 was $250,000. Thus, the CAISO's administrative price decisions had very little effect on the virtual bidders' net positions for the affected days.

emergency, generation and load that was tripped as a result of the system emergency were unable to perform consistently with their day-ahead schedules through no fault of their own. Absent intervention, section 11.5.2 would, consequently, settle these deviations at the real-time price – the published administrative prices. Because the day-ahead prices for the period of the market intervention were significantly below the published administrative price, the tripped generation would be subject to significantly higher costs, whereas the tripped load would be compensated at a significantly higher amount. For example, under the $250 administrative price, a generator that was awarded 1,000 megawatts of supply in the day-ahead market would be charged $250,000 for the real-time deviation, resulting in a net payment to the market of $197,000. Similarly, for a 4,000 megawatt load with a day-ahead price of $53, there would be a windfall of $788,000 for the hour it was not served. These outcomes would be inequitable given the loss of both generation and load.

Section 14.1 of the CAISO tariff, however, provides that a market participant will not be considered in default of any obligation under the CAISO tariff if an uncontrollable force (*i.e.*, *force majeure*) prevented the market participant from fulfilling that obligation. The CAISO tariff defines an uncontrollable force to include “any . . . force beyond the reasonable control of the . . . Market Participant which could not be avoided through the exercise of Good Utility Practice.”

There can be little question that the generators and load in question could not have avoided being tripped through the exercise of good utility practice.

Moreover, inclusion of forced outages within the meaning of uncontrollable force is consistent with Commission precedent. In a ruling on an early version of CAISO's new market design, the Commission responded to a request that interconnection customers be exempted from penalties for deviations that arise from "a force majeure event (e.g., forced outage of a generating or transmission facility)" by directing the CAISO to include such a provision.[14]

Section 14.2 does require that the "affected entity" notify the CAISO in writing of the uncontrollable force, but such notice would have been superfluous in this circumstance: it was the CAISO that notified market participants immediately of the system emergency, *i.e.,* the uncontrollable force.[15] It would make no sense for each of the tripped generators and loads to notify the CAISO about circumstances of which it already had actual notice – that the generators and loads could not meet day-ahead obligations because they had tripped.

Section 14.2 also requires that the affected entity must use best efforts to mitigate the effects of the uncontrollable force. In this instance, however, there was nothing that the tripped generators or load could do until system operations were restored, and therefore no best efforts to be used.

The CAISO has therefore concluded that, because of these *force majeure* conditions, the tripped generators and load were relieved during the system emergency of their obligation to perform in accordance with their day-ahead

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[14] *Cal. Indep. Sys. Operator Corp.*, 102 FERC ¶ 61,050 P 17 (2003).

[15] As discussed above, the CAISO provided the affected entities contemporaneous information about the emergency conditions through the Market Notification System. The CAISO kept the broader market informed through market notices. The CAISO Communications confirmed that these events constituted *force majeure* in the September 13th, 7:39 p.m. market notice.

schedules and should be held harmless. Therefore, for generation and load resources in the affected area that were forced to trip, the CAISO has proposed to correct the real-time 5-minute locational marginal price to match the day-ahead locational marginal price for the corresponding time interval. Similarly, the CAISO has proposed to correct the resource-specific real-time locational marginal price to match the resource-specific day-ahead locational marginal price for the corresponding time interval for curtailed intertie resources during this period. Generation resources impacted by the event that subsequently exceeded their day-ahead schedule upon returning on-line during the event, however, would not qualify for the exemption for the period after they returned on line. In those cases, the CAISO proposes to settle the energy above the day-ahead schedule at the published administrative prices.

In the event that the Commission does not agree with the CAISO's conclusion that the tripped generation and load qualify for relief under section 14.2, however, the CAISO respectfully requests that the Commission waive the relevant portions of section 11.5.2 for the impacted tripped generation and load during the period that they were unable to comply with their day-ahead schedules as a result of the system emergency. Like the requested waiver of section 7.7.4(3), this waiver also would be of a limited scope, applying only to a subset of generators for a very limited period. It would benefit customers by relieving them of obligations with which they could not comply. While holding tripped generation and load harmless does shift costs from generation and imports to load and exports, and from load in San Diego's area to load elsewhere in the state, this is consistent with cost causation. The generators were unable to deliver according to their day-ahead schedules for reasons beyond their control, and cannot therefore have caused or benefitted from the CAISO's establishment of an administrative price. In contrast, load outside southern California benefitted by the CAISO's actions, which ensure the availability of adequate generation to maintain service to that load.

III. FUTURE ACTIONS

Regardless of whether the Commission concludes the CAISO's response to the system emergency was consistent with the CAISO tariff, the CAISO recognizes that the tariff provisions regarding the nature of market intervention in the case of this significant a system emergency and the settlement implications of a force majeure event need clarification or revision. The CAISO therefore intends to convene a stakeholder process to consider appropriate clarifications and revisions. The CAISO plans to initiate the stakeholder process within 30 days from the date of the Commission's order in response to this filing.

The CAISO expects that the stakeholder process will require four to six months to complete. Any resulting tariff revisions will be submitted to the CAISO Board of Governors and the Commission for approval.

IV. SERVICE

The CAISO has service copies of this filing upon the California Public Utilities Commission and all parties with effective Scheduling Coordinator Service Agreements under the CAISO Tariff. In addition, the CAISO has posted this filing on its website.

V. CORRESPONDENCE

The CAISO requests that all correspondence, pleadings and other communications concerning this filing be served upon the following:

Sean A. Atkins
*Michael E. Ward
Alston & Bird LLP
The Atlantic Building
950 F Street, N.W.
Washington, DC 20004-1404
Tel: (202) 239-3300
Fax: (202) 239-3333

Nancy Saracino
General Counsel
*Sidney M. Davies
Assistant General Counsel
The California Independent System
Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630
Tel: (916) 351-4400
Fax: (916) 351-4436
[email]

*Individuals designated for service pursuant to 18 C.F.R. § 203(b)(3).

VI. CONCLUSION

For the reasons discussed above, the CAISO respectfully requests that the Commission grant the request waivers to the extent that the Commission considers the CAISO's response to the system emergency to be beyond the CAISO's tariff authority.

Respectfully submitted,

Nancy Saracino, General Counsel
Sidney Davies, Assistant General Counsel
The California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 351-4400
Fax: (916) 351-4436

/s/Michael E. Ward
Sean A. Atkins
Michael E. Ward
Alston & Bird LLP
The Atlantic Building
950 F Street, N.W.
Washington, DC 20004-1404
Tel: (202) 239-3300
Fax: (202) 239-3333

Counsel for the California Independent System Operator Corporation

Dated: October 26, 2011

Exhibit 1

Exhibit No. 1

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

DECLARATION OF DEBORAH LE VINE ON BEHALF OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

I, Deborah A. Le Vine, hereby declare as follows:

1. I am employed as Director of System Operations for the California Independent System Operator Corporation (the "CAISO"). My business address is 250 Outcropping Way, Folsom, CA 95630.

2. As the Director of System Operations, I am responsible for ensuring that the CAISO's day-to-day grid and market operations maintain compliance with system reliability criteria and standards established by the North American Electric Reliability Council (the "NERC") and the Western Electricity Coordinating Council (the "WECC") for the CAISO balancing authority area, transmission operators and transmission service providers, and fulfill the market responsibilities set forth in the CAISO tariff. I also oversee and provide state mandated reporting and public notifications relative to emergency system conditions as required.

3. I have been employed at the CAISO in various positions since January 1998. The CAISO first began operations on March 31, 1998, for the April 1, 1998 Trading Day. Immediately prior to my current position, I served as the Program Manager of the Market Redesign and Technology Upgrade, the CAISO's revised market software, and the Director of Market Services. As the Program Manager, I was responsible for the overall delivery of the

program based on the specified scope, schedule, and budget, including day-to-day operation of the program, which included 16 separate projects. My responsibilities also included ensuring that the internal Program Sponsor and Steering Committee, as well as the Board of Governors and stakeholders, had the necessary information to fulfill their responsibilities or otherwise meet their needs; setting overall direction for the program team; issue resolution; tracking of scope, schedule, and budget; and ensuring that an appropriate knowledge transfer between the project staff and the CAISO personnel having day to day responsibility for implementing the new market is planned and executed. As the Director of Market Services, I was responsible for the "bid-to-bill" process of the CAISO's markets. This meant I oversaw market operations including support of the grid operations, evaluating market performance, reporting market status, quality review of market data, billing, settlements, reruns and settlements projects.

4. I earned a Bachelor of Science degree in Electrical Engineering from San Diego State University in San Diego, California in May 1981. In May 1987, I received a Master in Business Administration from Pepperdine University in Malibu, California. In December 2002, I completed an Executive Program in Driving Government Performance: Leadership Strategies that Produce Results from the John F. Kennedy School of Government, Harvard University in Cambridge, Massachusetts. In August 2007, I completed an Advanced Masters Certificate program in Project

Management from Villanova University in Villanova, Pennsylvania. Additionally, I am a registered Professional Electrical Engineer in the State of California.

5. The CAISO operates two control centers, with the main headquarters in Folsom and a second control room in Alhambra. The control rooms provide the CAISO will real-time visibility of conditions on the CAISO-controlled grid and the ability to respond immediately to various contingencies.

6. Southwest Powerlink ("SWPL") is a 500 kV transmission line that runs from the Palo Verde/Hassayampa Substation in Arizona to the Miguel Substation in San Diego County, California. At 3:27 p.m. on September 8, 2011, the control room monitors showed that the Hassayampa-North Gila segment of SWPL had tripped. This meant an immediate loss of approximately 1,400 MW of imports into the San Diego area. Prior to this event, the CAISO peak demand was 43,292 and the demand in San Diego was approximately 4,300 MW.

7. By 3:38 p.m., 22 generating units and 24 qualifying facilities in the San Diego area and one generator in the Southern California Edison area had tripped. This resulted in the loss of another approximately 2, 200 MW of generating capacity for the San Diego area. Also, the tie-line to the San Onofre Nuclear Generating Station ("SONGS") separated, which removed both San Diego Gas & Electric Company's share of SONGS units and imports through the SONGS bus of another 700 MW to the San Diego

area. Approximately 2.78 million customers lost service across the Pacific Southwest. This represented approximately 7,900 MW of load within the service territories of Arizona Public Service, Comisión Federal de Electricidad, Imperial Irrigation District, San Diego Gas & Electric, and Western Area Power Administration – Lower Colorado Region. Generating units across the southwest that were loaded to a total of 7,032 MW, tripped off line during this disturbance.

8. At 4:19 p.m., the CAISO provided scheduling coordinators with notice, via the Market Notification System, of a Southern California transmission emergency, a system emergency associated with loss of transmission facilities. At this time, I was managing the emergency response for the markets in consultation with Mr. Rothleder, the Executive Director of Market Analysis and Development who, with 14 years of experience with the CAISO, is intimately familiar with market operations and behavior.

9. Two minutes later, the CAISO used the Market Notification System to institute restricted maintenance operations for Southern California. During restricted maintenance operations, work or adjustments may be performed to the transmission system, generation, or associated computer control systems only after receiving express approval from the CAISO. In addition, the declaration of a transmission-related system emergency allows the CAISO to request an emergency return to service for critical transmission infrastructure, which we did in this case for the California-

Oregon Intertie, which is the major transmission path between California and the Pacific Northwest.

10. The loss of all load and generation, along with imports and exports, in the San Diego area wreaked havoc on the ability of the CAISO to manage the grid through the market software. Initially, real-time prices were less than $30 in Northern California and slightly more than $50 for Southern California. Beginning with interval 11, hour ending 1600, the software produced extremely high prices in the San Diego area and much lower prices in the Southern California Edison Company and Pacific Gas and Electric Company areas. During the first two hours after the event, the locational marginal prices in the San Diego area—where load and generation resources were tripped-- were as high as $24,410, while prices in the rest of the balancing authority area, where the load was consuming electricity, were as low as negative $782. The real-time prices produced by the real-time market software for hours ending 1600 through 2400 on September 8, 2011 and hours ending 0100 through 0400 on September 9, 2011, are attached to my declaration as Exhibit 1A. In his declaration, Mr. Rothleder explains the reasons for these anomalous results.

11. These prices were precisely the opposite of what was necessary to stabilize the system. For stability, the price in the area where load remained needed to provide sufficient economic incentives so that generation would continue to run and not decrease output or shutdown

and so that neighboring balancing authority areas would sell to the CAISO. Negative prices do not provide this incentive.

12. During the remainder of the hour and the following hour, the CAISO attempted to manage the system manually and then at 5:51 p.m., the CAISO issued a notice directing generators to comply with their day-ahead schedules. Not all generators have a day-ahead schedule, however. For these resources, it was important to send a price signal to keep the resources available. During the following period, the CAISO issued incremental verbal exceptional dispatches to generators as necessary to manage the actual power flows that differed from the day-ahead schedules adjusted for the actual real-time load. With over 1,500 generating units in the CAISO balancing authority area, trying to verbally dispatch units is impracticable and extremely inefficient. While the CAISO can dispatch generating units through their scheduling coordinators, there are over approximately 100 scheduling coordinators that would need to be called and then, in a number of cases where the scheduling coordinator does not own or directly control the generating unit, the scheduling coordinator would need to contact the unit to direct the unit to move either up or down.

13. Before any generating unit in San Diego or imports into San Diego could be returned to service, the entire San Diego high voltage transmission system needed to be restored. Consistent with NERC reliability standards, San Diego Gas & Electric Company is responsible for restoring

their system and the CAISO acts in a coordinating role. To restore the system, San Diego Gas & Electric Company needed first to energize its 230 KV backbone transmission system, along with SWPL. Each transmission segment must be re-energized, which requires balancing the restored generation with restored load for each segment. San Diego Gas & Electric Company simultaneously worked to re-energize the northern portion of San Diego by bringing energy down from SONGS and re-energize the southern portion of San Diego by bringing energy across SWPL and then up into San Diego's backbone transmission system.

14. We concluded during this period that we would need to have virtually all non-tripped generation capacity available in order to return the system to normal operation. Unfortunately, as I have explained, the software was not then functioning in a manner to send the correct price signals or dispatches for ensuring the availability of that capacity, and it was not feasible to contact so many generators individually to issue exceptional dispatch instructions. Mr. Rothleder and I concluded that we needed to take additional steps in order to restore the system expeditiously.

15. We knew that the CAISO tariff and CAISO Operating Procedure 1710 (formerly M-406) allowed the CAISO to intervene in the market and set an administrative price in the event of a system emergency. The then-effective version of the operating procedures is attached to my declaration as Exhibit 1B. The tariff and operating procedure establish the initial administrative price as the price for the last interval preceding the market

intervention. Thus, the locational marginal prices from hour ending 1600, interval 10, would initially apply to the subsequent period.

16. Although we did not, at this time, know what that price would be, we were confident that – in light of the unavailability of over 4,600 MW of supply and based on our combined almost 30 years of experience working with the CAISO markets – the pre-disturbance price would not provide sufficient incentives to generators and imports to stay online and continue to sell to the CAISO. As it turns out, this price was only approximately $54 per megawatt hour.

17. Many of the generators that we would need to have available have costs in excess of $54 per megawatt hour, especially when start-up costs are included. Generation that was available at the time was bidding all the way from prices in the $50 range up to the bid cap of $1000, with $250 being the bid price of the capacity at the level we believed we needed for the restoration.

18. Based on the information available and our experience with CAISO markets, we concluded that the prudent course of action would be to set an administrative price of $250 per megawatt hour. Mr. Rothleder provides additional information on the choice of $250. Accordingly, at 6:02 p.m. on September 8, 2011, the CAISO issued a notice to Scheduling Coordinators via the Market Notification System that, effective 6:00 p.m., the CAISO had suspended the market and was instituting an administrative price of $250 per megawatt hour.

19. In taking this action, we relied on Operating Procedure 1710, which provided that the Director of Grid Operations (or the shift supervisor) may revise the initial administrative price depending on system conditions and the duration of the System Emergency. This authority has been in the operating procedure since spring 2000. Only later did we become aware that the CAISO tariff does not explicitly provide this authority.

20. At 8:56 p.m., due to reduced demand and changing system conditions, we issued a notice through the Market Notification System that, effective as of 10:00 p.m., we were able to reduce the administrative price to $100 per megawatt hour.

21. Following the market suspension, the CAISO continued to request scheduling coordinators for generating units to follow their day-ahead schedules unless verbally exceptionally dispatched. Scheduling coordinators were also instructed to follow the automatic dispatch system for intertie dispatches, except in hour ending 2200.

22. During the subsequent period, we continued to monitor the operation of the market systems. Once we concluded that the software was properly taking the islanding of the San Diego area into account and presenting valid results, we were prepared to restore the market outside the San Diego area. At 12:26 a.m. on September 9th, the CAISO therefore provided notice through the Market Notification System that, effective 1:00 a.m., the CAISO was resuming market operations, and terminating the administrative price with the exception of the San Diego service area. The

CAISO instructed scheduling coordinators for resources outside of the San Diego area to start following the automatic dispatch system at that time.

23. The San Diego Gas & Electric Company's transmission system was restored by 1:39 a.m. and all utility customers had their electricity restored by 3:25 a.m. on September 9th. Based on these developments, the CAISO was able to terminate the administrative price in the San Diego area effective 4:00 a.m. and resume normal operations. The CAISO notified scheduling coordinators via Market Notification System at 3:26 a.m. of this termination

24. At 9:58 a.m. on September 9th, the CAISO cancelled the system emergency.

I declare, under penalty of perjury, that the foregoing statements are true and correct.

Executed this 26th day of October, 2011, in Folsom, California.

/s/ Deborah A. Le Vine
Deborah A. Le Vine

Exhibit 1A

Exhibit 1A

trade_date	trade_hr	interval_num	SYS_LMP	**PGAE**	**SCE**	**SDGE**
9/8/2011	16	1	$ 34.86	$ 29.77	$ 37.95	$ 38.22
9/8/2011	16	2	$ 35.61	$ 29.81	$ 39.10	$ 39.63
9/8/2011	16	3	$ 36.84	$ 32.87	$ 39.19	$ 39.81
9/8/2011	16	4	$ 36.78	$ 29.67	$ 41.02	$ 41.97
9/8/2011	16	5	$ 37.73	$ 27.96	$ 43.61	$ 44.72
9/8/2011	16	6	$ 36.78	$ 27.89	$ 42.11	$ 43.19
9/8/2011	16	7	$ 35.80	$ 27.85	$ 40.55	$ 41.69
9/8/2011	16	8	$ 36.32	$ 28.66	$ 40.89	$ 42.05
9/8/2011	16	9	$ 36.86	$ 28.67	$ 41.77	$ 42.95
9/8/2011	16	10	$ 43.66	$ 28.89	$ 52.66	$ 53.99
9/8/2011	16	11	$ 1,012.43	$ 68.79	$ 1,422.49	$ 2,452.86
9/8/2011	16	12	$ 1,010.67	$ 73.79	$ 1,401.07	$ 2,524.32
9/8/2011	17	1	$ 1,032.64	$ 74.31	$ 1,235.29	$ 3,512.63
9/8/2011	17	2	$ 1,022.69	$ 95.21	$ 1,206.46	$ 3,493.86
9/8/2011	17	3	$ 1,019.81	$ 449.20	$ 980.09	$ 3,268.56
9/8/2011	17	4	$ 1,019.26	$ 80.38	$ 1,137.32	$ 3,958.32
9/8/2011	17	5	$ 1,016.48	$ 69.78	$ 1,142.25	$ 3,965.16
9/8/2011	17	6	$ 1,015.62	$ 78.97	$ 1,138.23	$ 3,959.23
9/8/2011	17	7	$ 1,020.06	$ 86.29	$ 1,144.58	$ 3,960.11
9/8/2011	17	8	$ 1,018.37	$ 77.98	$ 1,150.00	$ 3,965.53
9/8/2011	17	9	$ 1,017.63	$ 79.97	$ 1,148.70	$ 3,964.23
9/8/2011	17	10	$ 1,222.06	$ 655.01	$ (0.29)	$ 9,348.38
9/8/2011	17	11	$ 1,220.41	$ 602.64	$ 95.53	$ 9,067.02
9/8/2011	17	12	$ 1,220.41	$ 602.64	$ 95.53	$ 9,067.02
9/8/2011	18	1	$ 1,220.41	$ 602.64	$ 95.53	$ 9,067.02
9/8/2011	18	2	$ 1,220.41	$ 602.64	$ 95.53	$ 9,067.02
9/8/2011	18	3	$ 2,429.10	$ (117.29)	$ (51.20)	$ 24,410.35
9/8/2011	18	4	$ 1,220.41	$ 602.64	$ 95.53	$ 9,067.02
9/8/2011	18	5	$ 1,220.41	$ 602.64	$ 95.53	$ 9,067.02
9/8/2011	18	6	$ 2,238.79	$ 706.89	$ (692.00)	$ 22,501.02
9/8/2011	18	7	$ 2,247.45	$ (91.82)	$ (51.20)	$ 22,632.43
9/8/2011	18	8	$ 2,244.07	$ 669.22	$ (782.00)	$ 23,157.07
9/8/2011	18	9	$ 2,241.31	$ 668.93	$ (757.00)	$ 23,014.07
9/8/2011	18	10	$ 966.85	$ 21.99	$ 1,135.28	$ 4,528.17
9/8/2011	18	11	$ 807.31	$ (35.72)	$ 1,068.82	$ 3,342.67
9/8/2011	18	12	$ 799.49	$ (35.72)	$ 1,068.82	$ 3,269.00
9/8/2011	19	1	$ 788.97	$ (55.59)	$ 1,068.09	$ 3,268.00
9/8/2011	19	2	$ 784.22	$ (63.09)	$ 1,068.09	$ 3,268.00
9/8/2011	19	3	$ 784.22	$ (63.09)	$ 1,068.09	$ 3,268.00
9/8/2011	19	4	$ 893.00	$ (34.37)	$ 1,067.99	$ 4,505.83
9/8/2011	19	5	$ 973.62	$ (31.80)	$ 1,207.06	$ 4,644.89
9/8/2011	19	6	$ 891.30	$ (34.37)	$ 1,067.99	$ 4,505.83
9/8/2011	19	7	$ 906.40	$ (377.97)	$ 1,068.10	$ 6,618.20
9/8/2011	19	8	$ 906.16	$ (377.97)	$ 1,068.10	$ 6,618.20
9/8/2011	19	9	$ 906.81	$ (377.97)	$ 1,068.10	$ 6,618.20
9/8/2011	19	10	$ 898.69	$ (344.35)	$ 1,037.98	$ 6,681.45

9/8/2011	19	11	$ 530.54	$ (31.30)	$ 167.27	$ 5,810.74
9/8/2011	19	12	$ 488.52	$ (56.83)	$ 110.69	$ 5,754.16
9/8/2011	20	1	$ 867.97	$ (12.50)	$ 797.65	$ 6,410.39
9/8/2011	20	2	$ 869.80	$ 0.01	$ 788.81	$ 6,401.56
9/8/2011	20	3	$ 453.20	$ (3.14)	$ 61.40	$ 5,669.73
9/8/2011	20	4	$ 475.43	$ 0.01	$ 93.72	$ 5,706.31
9/8/2011	20	5	$ 486.70	$ 0.01	$ 110.72	$ 5,723.31
9/8/2011	20	6	$ 73.01	$ 2.77	$ 110.72	$ 5,723.31
9/8/2011	20	7	$ (643.98)	$ (954.05)	$ (448.83)	$ 16,326.73
9/8/2011	20	8	$ (650.83)	$ (1,039.91)	$ (388.67)	$ 16,386.89
9/8/2011	20	9	$ (644.52)	$ (954.68)	$ (448.39)	$ 16,327.17
9/8/2011	20	10	$ 44.07	$ 43.00	$ 44.98	$ 43.00
9/8/2011	20	11	$ 27.34	$ 26.27	$ 28.25	$ 26.27
9/8/2011	20	12	$ 27.34	$ 26.27	$ 28.25	$ 26.27
9/8/2011	21	1	$ 32.87	$ 31.81	$ 33.79	$ 31.81
9/8/2011	21	2	$ 35.86	$ 34.80	$ 36.78	$ 34.80
9/8/2011	21	3	$ 36.60	$ 35.51	$ 37.54	$ 35.51
9/8/2011	21	4	$ 34.60	$ 33.51	$ 35.54	$ 33.51
9/8/2011	21	5	$ 32.89	$ 31.81	$ 33.84	$ 31.81
9/8/2011	21	6	$ 32.89	$ 31.81	$ 33.84	$ 31.81
9/8/2011	21	7	$ 32.80	$ 31.71	$ 33.74	$ 31.34
9/8/2011	21	8	$ 23.98	$ 22.90	$ 24.93	$ 22.53
9/8/2011	21	9	$ 22.05	$ 20.96	$ 22.99	$ 20.59
9/8/2011	21	10	$ 22.05	$ 20.96	$ 23.00	$ 19.56
9/8/2011	21	11	$ 21.08	$ 20.00	$ 22.04	$ 18.60
9/8/2011	21	12	$ 20.06	$ 18.98	$ 21.01	$ 17.57
9/8/2011	22	1	$ 20.50	$ 20.50	$ 20.50	$ 20.50
9/8/2011	22	2	$ 20.96	$ 20.96	$ 20.96	$ 20.96
9/8/2011	22	3	$ 21.85	$ 21.85	$ 21.85	$ 21.85
9/8/2011	22	4	$ 23.47	$ 22.45	$ 24.43	$ 20.95
9/8/2011	22	5	$ 25.84	$ 24.88	$ 26.86	$ 23.37
9/8/2011	22	6	$ 25.84	$ 24.88	$ 26.86	$ 23.37
9/8/2011	22	7	$ 773.60	$ (33.62)	$ 1,409.00	$ 1,564.09
9/8/2011	22	8	$ 322.02	$ (238.98)	$ 757.58	$ 972.20
9/8/2011	22	9	$ 322.19	$ (238.98)	$ 757.58	$ 972.20
9/8/2011	22	10	$ 860.96	$ (33.76)	$ 1,404.57	$ 3,392.24
9/8/2011	22	11	$ 724.36	$ (33.21)	$ 1,184.57	$ 2,848.81
9/8/2011	22	12	$ 850.11	$ (33.77)	$ 1,406.57	$ 3,070.81
9/8/2011	23	1	$ 800.79	$ (133.66)	$ 1,383.32	$ 3,105.04
9/8/2011	23	2	$ 638.38	$ 0.01	$ 1,000.00	$ 2,597.77
9/8/2011	23	3	$ 864.30	$ 0.01	$ 1,400.76	$ 3,026.24
9/8/2011	23	4	$ 591.68	$ 0.01	$ 1,000.00	$ 1,625.69
9/8/2011	23	5	$ 578.65	$ (30.92)	$ 1,000.00	$ 1,625.69
9/8/2011	23	6	$ (294.32)	$ (2,185.00)	$ 1,000.00	$ 1,625.69
9/8/2011	23	7	$ 634.79	$ (32.61)	$ 1,000.00	$ 1,632.81
9/8/2011	23	8	$ 641.98	$ (32.61)	$ 1,000.00	$ 1,632.81
9/8/2011	23	9	$ 649.13	$ (32.61)	$ 1,000.00	$ 1,632.81

9/8/2011	23	10	$	882.07	$	(362.56)	$	1,000.00	$	4,466.50
9/8/2011	23	11	$	909.51	$	(362.56)	$	1,000.00	$	4,466.50
9/8/2011	23	12	$	38.04	$	38.04	$	38.04	$	38.04
9/8/2011	24	1	$	42.08	$	42.08	$	42.08	$	42.08
9/8/2011	24	2	$	54.05	$	54.05	$	54.05	$	54.05
9/8/2011	24	3	$	49.76	$	49.76	$	49.76	$	49.76
9/8/2011	24	4	$	49.76	$	49.76	$	49.76	$	49.76
9/8/2011	24	5	$	48.39	$	48.39	$	48.39	$	48.39
9/8/2011	24	6	$	48.16	$	48.16	$	48.16	$	48.16
9/8/2011	24	7	$	40.86	$	40.86	$	40.86	$	40.86
9/8/2011	24	8	$	40.72	$	40.72	$	40.72	$	40.72
9/8/2011	24	9	$	41.14	$	41.14	$	41.14	$	41.14
9/8/2011	24	10	$	40.93	$	40.93	$	40.93	$	40.93
9/8/2011	24	11	$	30.97	$	30.97	$	30.97	$	30.97
9/8/2011	24	12	$	21.41	$	21.41	$	21.41	$	21.41

trade_date	trade_hr	interval_num	SYS_LMP	PGAE	SCE	SDGE
9/9/2011	1	1	$ 34.65	$ 34.65	$ 34.65	$ 34.65
9/9/2011	1	2	$ 28.70	$ 28.70	$ 28.70	$ 28.70
9/9/2011	1	3	$ 42.16	$ 42.16	$ 42.16	$ 42.16
9/9/2011	1	4	$ 41.47	$ 41.47	$ 41.47	$ 41.47
9/9/2011	1	5	$ 41.23	$ 41.23	$ 41.23	$ 41.23
9/9/2011	1	6	$ 40.33	$ 40.33	$ 40.33	$ 40.33
9/9/2011	1	7	$ 37.21	$ 37.21	$ 37.21	$ 37.21
9/9/2011	1	8	$ 36.64	$ 36.64	$ 36.64	$ 36.64
9/9/2011	1	9	$ 38.05	$ 38.05	$ 38.05	$ 38.05
9/9/2011	1	10	$ 40.88	$ 40.88	$ 40.88	$ 40.88
9/9/2011	1	11	$ 39.67	$ 39.67	$ 39.67	$ 39.67
9/9/2011	1	12	$ 34.84	$ 34.84	$ 34.84	$ 34.84
9/9/2011	2	1	$ 26.88	$ 26.88	$ 26.88	$ 26.88
9/9/2011	2	2	$ 27.26	$ 27.26	$ 27.26	$ 27.26
9/9/2011	2	3	$ 26.88	$ 26.88	$ 26.88	$ 26.88
9/9/2011	2	4	$ 15.94	$ 15.94	$ 15.94	$ 15.94
9/9/2011	2	5	$ 20.96	$ 20.96	$ 20.96	$ 20.96
9/9/2011	2	6	$ 15.94	$ 15.94	$ 15.94	$ 15.94
9/9/2011	2	7	$ 0.01	$ 0.01	$ 0.01	$ 0.01
9/9/2011	2	8	$ 0.01	$ 0.01	$ 0.01	$ 0.01
9/9/2011	2	9	$ 0.01	$ 0.01	$ 0.01	$ 0.01
9/9/2011	2	10	$ 0.01	$ 0.01	$ 0.01	$ 0.01
9/9/2011	2	11	$ 26.64	$ 26.64	$ 26.64	$ 26.64
9/9/2011	2	12	$ 33.93	$ 33.93	$ 33.93	$ 33.93
9/9/2011	3	1	$ 34.65	$ 34.65	$ 34.65	$ 34.65
9/9/2011	3	2	$ 34.65	$ 34.65	$ 34.65	$ 34.65
9/9/2011	3	3	$ 33.69	$ 33.69	$ 33.69	$ 33.69
9/9/2011	3	4	$ 34.65	$ 34.65	$ 34.65	$ 34.65
9/9/2011	3	5	$ 30.71	$ 30.71	$ 30.71	$ 30.71
9/9/2011	3	6	$ 39.75	$ 39.75	$ 39.75	$ 39.75
9/9/2011	3	7	$ 37.83	$ 37.83	$ 37.83	$ 37.83
9/9/2011	3	8	$ 32.04	$ 32.04	$ 32.04	$ 32.04
9/9/2011	3	9	$ 37.83	$ 37.83	$ 37.83	$ 37.83
9/9/2011	3	10	$ 35.19	$ 35.49	$ 34.88	$ 35.28
9/9/2011	3	11	$ 35.18	$ 35.48	$ 34.87	$ 35.27
9/9/2011	3	12	$ 33.58	$ 33.87	$ 33.29	$ 33.67
9/9/2011	4	1	$ 34.67	$ 34.92	$ 34.38	$ 34.90
9/9/2011	4	2	$ 33.56	$ 33.80	$ 33.28	$ 33.78
9/9/2011	4	3	$ 33.56	$ 33.80	$ 33.28	$ 33.76
9/9/2011	4	4	$ 31.42	$ 31.60	$ 31.20	$ 31.65
9/9/2011	4	5	$ 31.42	$ 31.60	$ 31.20	$ 31.65
9/9/2011	4	6	$ 31.85	$ 32.03	$ 31.62	$ 32.08
9/9/2011	4	7	$ 34.58	$ 34.81	$ 34.31	$ 34.81
9/9/2011	4	8	$ 34.58	$ 34.81	$ 34.31	$ 34.81
9/9/2011	4	9	$ 35.15	$ 35.38	$ 34.87	$ 35.38
9/9/2011	4	10	$ 38.29	$ 38.53	$ 38.00	$ 38.56

trade_date	trade_hr	interval_num	SYS_LMP	PGAE	SCE	SDGE
9/9/2011	4	11	$ 38.29	$ 38.53	$ 38.00	$ 38.56
9/9/2011	4	12	$ 38.79	$ 39.04	$ 38.50	$ 39.07

Exhibit 1B

Exhibit 1B

Table of Contents

Purpose

Provides guidelines to suspend the market and implement Administrative Prices during System Emergencies.

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1. Responsibilities

CAISO Shift Supervisor or Director of Grid Ops Actions	• Instruct Market Opertor to establish an Administrative Price when necessary
CAISO Generation Dispatch	• Take appropriate actions to prevent setting an Administrative Price
CAISO Market Operator Actions	• Establish an Administrative Price as instructed by the CAISO Shift Supervisor or Director of Grid Ops Actions • Make appropriate notifications

2. Scope/Applicability

2.1 Background

The CAISO intervenes in the operation of the Day-Ahead Market (DAM) or the Real-Time Market (RTM) and sets the Administrative Prices if it is determined that such intervention is necessary to prevent, contain, or correct a System Emergency. These interventions may occur on a Balancing Authority Area-wide basis or with respect to islanded portions of the Balancing Authority Area.

The CAISO does not intervene in the operation of the markets unless there has been a total collapse or major disruption of the CAISO Controlled Grid. However, short of intervening in the operation of Markets and setting Administrative Prices, the CAISO calls on Exceptional Dispatch resources to prevent, contain, or correct a System Emergency.

2.2 Scope / Applicability

This procedures applies to the implementation of Administrative Prices during a System Emergency.

3. Procedure Detail

3.1 Preconditions to the Market Intervention

Prior to intervening in the Day-Ahead Market (DAM) or the Real-Time Market (RTM), and before setting Administrative Prices, perform these steps in the following order:

<table>
<tr><th>Step</th><th>CAISO Shift Supervisor Actions</th></tr>
<tr><td>1</td><td><table><tr><th>If…</th><th>Then…</th></tr><tr><td>There is <u>not</u> a total or major collapse of the CAISO Controlled Grid,</td><td>Do not intervene in the operation of the DAM</td></tr></table></td></tr>
<tr><th>Step</th><th>CAISO Generation Dispatcher Actions</th></tr>
<tr><td>2</td><td>Dispatch all Scheduled Generation and all other Generation offered or available to it regardless of price.</td></tr>
<tr><td>3</td><td>Dispatch or curtail all price-responsive Demand that has been Bid into any of the markets.</td></tr>
<tr><td>4</td><td>Dispatch all interruptible Loads made available by UDCs to the CAISO in accordance with the relevant agreements with UDCs.</td></tr>
<tr><td>5</td><td>Exercise Load Shedding to curtail Demand on an involuntary basis to the extent that the CAISO considers necessary.</td></tr>
</table>

3.2 Market Intervention

Take the following actions to implement an Administrative Price:

<table>
<tr><th>Step</th><th>CAISO Shift Supervisor or Director of Grid Ops Actions</th></tr>
<tr><td>1</td><td><table><tr><th>If…</th><th>Then…</th></tr><tr><td>It is determined that the CAISO no longer has the ability to maintain reliable operation of the CAISO Controlled Grid relying solely on the economic Dispatch of Generation,</td><td>Establish an Administrative Price for Energy and Ancillary Service.</td></tr></table></td></tr>
<tr><th>Step</th><th>CAISO Market Operator Actions</th></tr>
<tr><td>2</td><td><table><tr><th>If…</th><th>Then…</th></tr><tr><td>The Shift Supervisor or the Director of Grid Operations has determined that Administrative Prices will be set for the CAISO Balancing Authority,</td><td>Notify SCs, via the WEnet, and indicate the extent and expected duration for which the Administrative Prices apply.</td></tr></table></td></tr>
</table>

<table>
<tr><td>4</td><td>Establish the initial Administrative Price for Imbalance Energy and Ancillary Services at the applicable Market Clearing Price for the Settlement period immediately preceding the Settlement period in which the intervention takes place.
<i>Note: Administrative Prices may be changed by Shift Supervisor or the Director of Grid Operations depending on system conditions and the duration of the System Emergency.</i></td></tr>
<tr><td colspan="2"><i>Note: Administrative Prices may be changed by Shift Supervisor or the Director of Grid Operations depending on system conditions and the duration of the System Emergency.</i></td></tr>
<tr><td>5</td><td>
<table>
<tr><th>When…</th><th>Then…</th></tr>
<tr><td>The CAISO restores all Demand that was curtailed involuntarily, and
System conditions allow,</td><td>Discontinue the CAISO's market intervention and the applicability of the Administrative Prices,
And
Notify SCs, via the WEnet.</td></tr>
</table>
</td></tr>
</table>

3.3 Market Intervention in Islanded Portions of the Balancing Authority Area

Take the following actions for Islanded portions of the grid:

<table>
<tr><th>Step</th><th>CAISO Market Operator Actions</th></tr>
<tr><td>1</td><td>
<table>
<tr><th>If…</th><th>Then…</th></tr>
<tr><td>Islanding results in a System Emergency,</td><td>Establish Administrative Prices on islanded portions of the CAISO Balancing Authority Area.</td></tr>
</table>
<i>Note: The Market Operators are <u>not</u> required to establish separate Market Clearing Prices for islanded portions of the CAISO Balancing Area.</i>
</td></tr>
<tr><td>2</td><td>Manage islanded portions of the CAISO Balancing Area in accordance with the various area Operating Procedures.</td></tr>
</table>

<table>
<tr><td>3</td><td>
<table>
<tr><th>If…</th><th>Then…</th></tr>
<tr><td>The Generation islanded portion can be entered in AGC,</td><td>Enter it in AGC.</td></tr>
<tr><td>The Generation islanded portion can’t be entered in AGC,</td><td>Set Generation manually,
And
Identify Generation to control frequency.</td></tr>
</table>
</td></tr>
<tr><th>Step</th><th>CAISO Generation Dispatcher Actions</th></tr>
<tr><td>4</td><td>
<table>
<tr><th>If…</th><th>Then…</th></tr>
<tr><td>The Market Operators have exhausted all bid Energy (including Ancillary Services) within the islanded portion of the CAISO Balancing Authority Area,</td><td>Instruct any Generating Units on (or off in the case of Overgeneration in the island) that are needed within the island.</td></tr>
</table>
</td></tr>
<tr><td>5</td><td>Log any Exceptional Dispatch calls for Settlement purposes.</td></tr>
<tr><td colspan="2"><i>Note:</i> <i>The CAISO pays all appropriate costs to the SCs for those Generating Units that are instructed on or off within the islanded portion of the CAISO Balancing Authority Area.</i></td></tr>
</table>

4. Supporting Information

Operationally Affected Parties

Shared on the Internet.

References

Resources studied in the development of this procedure and that may have an effect upon some steps taken herein include but are not limited to:

CAISO Tariff	
NERC Standards	

Definitions

Unless the context otherwise indicates, any word or expression defined in the Master Definitions Supplement to the CAISO Tariff shall have that meaning when capitalized in this Operating Procedure.

The following additional terms are capitalized in this Operating Procedure when used as defined below:

Administrative Price	The price set by the CAISO in place of a Locational Marginal Price when, by reason of a System Emergency, the CAISO determines that it no longer has the ability to maintain reliable operation of the CAISO Controlled Grid relying solely on the economic Dispatch of Generation. This price will remain in effect until the CAISO considers that the System Emergency has been contained and corrected.

Version History

Version	Change	By	Date
4.0	Changes for MRTU - formatted	M. Peterson	4/1/09
5.0	Reformatted for new prototype	M. Ludmer	5/1/11
5.1	On 5/1/11, 1710 version 5.0 (M-406), Reformatting included addition: Scope/Applicability, Periodic Review all procedure details were moved to Section 3. This update is minor, clarifying the reformatting changes, and new effective date.	L. Pate	5/20/11

5. Periodic Review Procedure

Review Criteria

There are no specific review criteria identified for this procedure, follow instructions in Procedures 5510 and 5520.

Frequency

Review as recommended in Procedures 5510 and 5520.

Incorporation of Changes

There are no specific criteria for changing this document, follow instructions in Procedures 5510 and 5520.

Technical Review

Reviewed By Content Expert	Signature	Date
Operating Procedures	Lorri Pate	5/20/11
Operations Planning		
Real-Time Ops		
DAOperations and Scheduling Services		
Outage Management		

Approval

Approved By	Signature	Date
Director, System Operations	Debi LeVine*	5/1/11
Director, Operations Engineering Services	Chetty Mamandur*	5/1/11

*Signed previous version only; changes to this version were minor and did not require full signature approval

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Appendix

Attachment : None

Exhibit 2

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

DECLARATION OF MARK A. ROTHLEDER ON BEHALF OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

I, Mark A. Rothleder, hereby declare as follows:

1. I am employed as Executive Director of Market Analysis and Program Development for the California Independent System Operator Corporation ("CAISO"). My business address is 250 Outcropping Way, Folsom, CA 95630.

2. As Executive Director of Market Analysis and Program Development, I play a lead role in the design and implementation of market rules and operating procedures for the CAISO. I also played a lead role in designing many of the aspects of the CAISO's revised market design, implemented on March 31, 2009, including the provisions regarding exceptional dispatch.

3. I have been employed at the CAISO in various positions since July 1997. Prior to my current position, I served as Director of Market Operations for the CAISO.

4. I am a registered Professional Electrical Engineer in the state of California. I hold a B.S. degree in Electrical Engineering from the California State University, Sacramento. I have taken post-graduate coursework in Power System Engineering from Santa Clara University and earned an M.S. in Information Systems from the University of Phoenix. I have co-authored

technical papers on aspects of the California market design in professional journals and have frequently presented to industry forums. Prior to joining the CAISO in 1997, I worked for eight years in the Electric Transmission Department of Pacific Gas & Electric Company, where my responsibilities included Operations Engineering, Transmission Planning and Substation Design.

5. In her declaration, Ms. Deborah A. Le Vine discusses the events that followed the tripping of the Southwest Powerlink ("SWPL") on September 8, 2011. The purpose of my testimony is to address certain technical aspects of those events and to explain the market impact of the ISO's decisions to publish special administrative prices and to settle the market using those prices along with the ISO's decision to hold harmless those generation and load resources that were tripped as a result of those events.

6. As Ms. Le Vine explains, in the two hours following the loss of SWPL, when most of the generation and load resources in the San Diego area were tripped, the locational marginal prices in the San Diego areas were as high as $24,410, whereas prices in the rest of the balancing authority area, where the load was consuming electricity, were as low as negative $782.

7. Data that we examined in our internal review of the events demonstrate the complete disconnection between the real-time market results and the actual physical conditions of the grid. Figures 1 and 2 below compare the

real-time market and the actual demand for the entire system and for the San Diego area. The CAISO uses an automated load forecasting program to forecast load at a system level as well as a transmission access charge area level. The transmission access charge areas conform to the service areas of the three investor-owned participating transmission owners, but also include the service areas of embedded municipal participating transmission owners. The real-time market relies on these forecasts as inputs. Immediately following the outage event, the demand forecasting tools continued to forecast demand based on the pre-outage conditions. As a result, until the CAISO took manual actions to adjust the demand forecast to reflect the outage, the forecast load used in the market solution did not reflect actual demand conditions. The manual adjustment to the demand forecast occurred about one hour after the event.

Figure 1

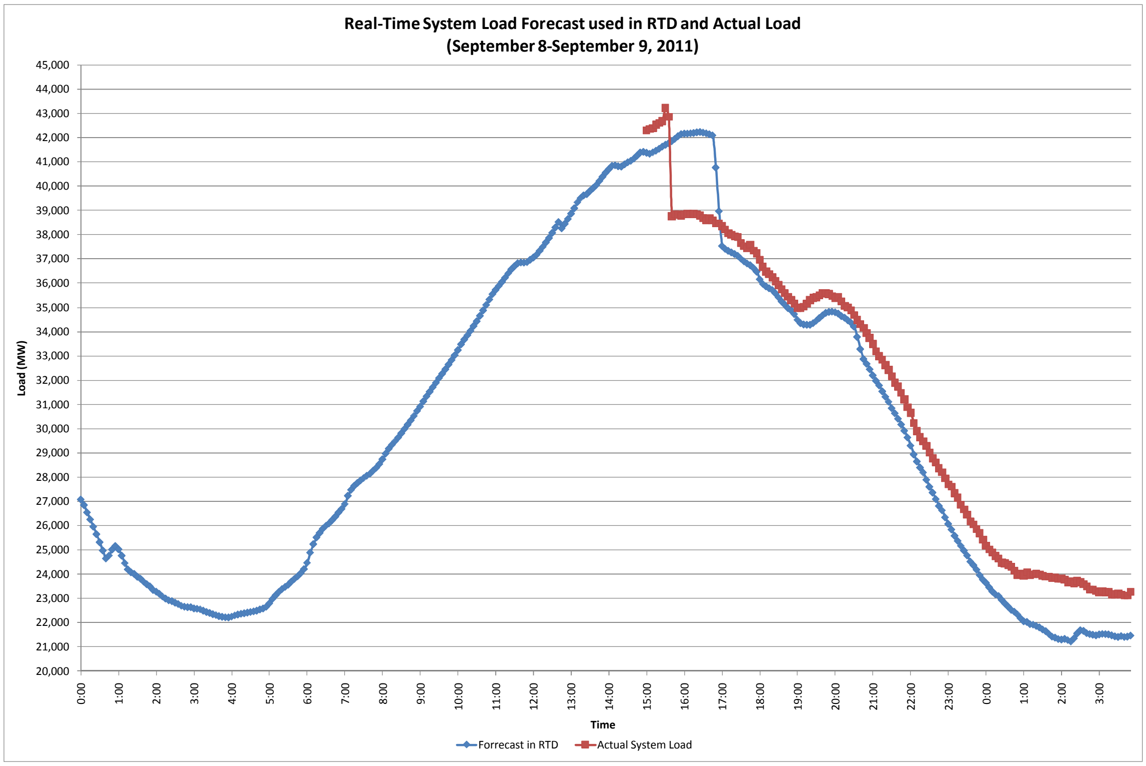
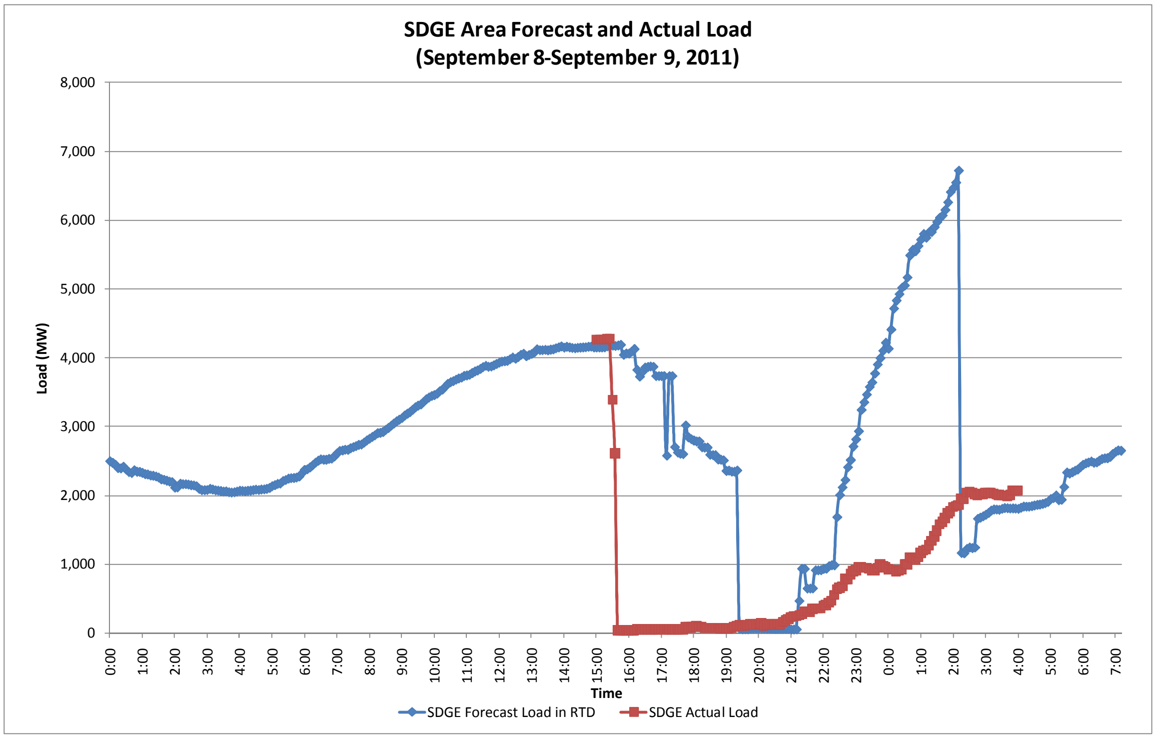

Real-Time System Load Forecast used in RTD and Actual Load
(September 8-September 9, 2011)
Load (MW)
45,000
44,000
43,000
42,000
41,000
40,000
39,000
38,000
37,000
36,000
35,000
34,000
33,000
32,000
31,000
30,000
29,000
28,000
27,000
26,000
25,000
24,000
23,000
22,000
21,000
20,000
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
Time
Forrecast in RTD
Actual System Load

Figure 2



8. A compounding issue that affected the market solution was that the market model continued to distribute load to the San Diego area load nodes even though the load had tripped. The model was receiving inconsistent network topology information, which indicated that stations inside the San Diego area were disconnected or islanded off from the rest of the CAISO network while at the same time indicating that generation and load resources that had physically tripped remained connected. The market system is configured to recognize small islands of load and generation and to disconnect such islands so that they do not affect the rest of the solution. However, the island-recognition feature was not configured to detect an island condition the size of the San Diego Gas & Electric Company system. As a result, tripped load and generation

continued to be included in the market solution, resulting in erroneous market results. To address this situation, the CAISO attempted to isolate and disconnect the San Diego area load in the market model but was unsuccessful.

9. As Ms. Le Vine discusses, we concluded that, in light of the inability of the market systems to provide appropriate price signals, we needed to suspend the market and to establish an administrative price higher than that specified for the initial administrative price in the CAISO's operating procedures.

10. We considered that the CAISO peak demand prior to the event was 43,292 megawatts. While the peak load of 43,292 megawatts occurred just prior the event, forecasts indicated that the peak would have likely been near 44,000 megawatts had the event not occurred. Thus, with the loss of 4,657 megawatts of load in southern California, we needed more than 39,000 megawatts to serve the remaining load in the CAISO balancing authority area. Moreover, there was no certainty that generation internal to San Diego would be available to serve returned load, because once a generator trips, it must be inspected prior to its restart to ensure that the unit has not been damaged. Thus, the CAISO needed to ensure that energy was available from other parts of California and the west to restore the tripped load. Based on the loss of about 4,300 megawatts of load and the fact that we did not know when the load would return, we needed to be prepared to serve approximately 42,800

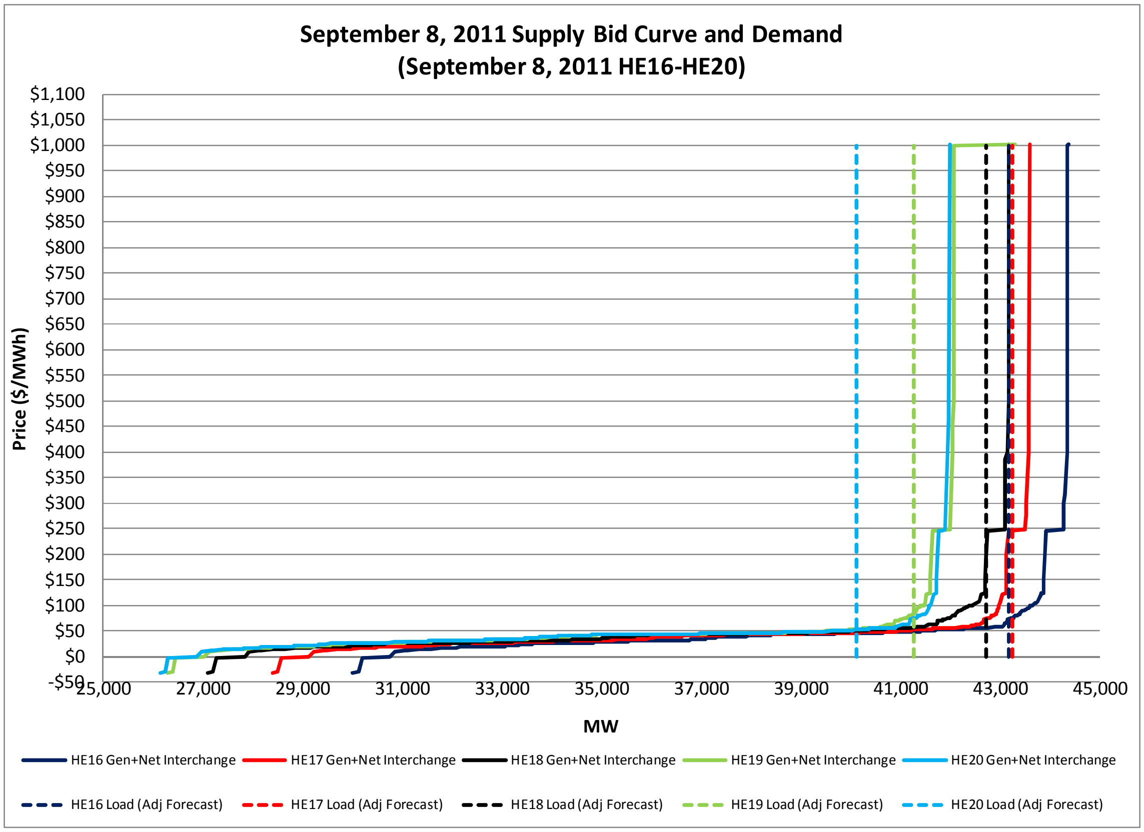
megawatts of load in hour ending 1800. Using the information available, we decided that a price of $250 per megawatt-hour would provide the correct incentives to maintain sufficient generation resources to keep the lights on outside of the San Diego area as well as to restore service within the San Diego area. However, after hour ending 2200, demand reduced sufficiently that the CAISO felt comfortable to reduce the administrative price to $100 per megawatt hour.

11. In our subsequent internal review of the events, we were able to examine the market data on available generation and supply bids. Figure 3 presents the aggregate bid quantity curves for hours ending 1600 through 2000 on September 8, 2011. Also provided are the CAISO forecast demand levels for hours ending 1600 through 2000 adjusted for the amount of demand that would have existed had all the San Diego load returned to service plus 1,000 megawatts of demand to account for the fact that the actual demand was approximately 1,000 megawatts above the CAISO forecast demand at approximately 1530, prior to the load tripping event.

12. For hour ending 1800, there were approximately 33,200 megawatts of supply available at the $54 price from the last good interval and about 7,500 megawatts of scheduled net interchange (imports) for a total of approximately 40,700 megawatts at $54. A total of approximately 43,100 megawatts of bids from internal generation plus scheduled net interchange were available at or below $250 for hour ending 1800. Had

the San Diego load been restored, the actual demand would have been an estimated 42,721 megawatts for hour ending 1800, in light of the fact that the actual demand was approximately 1,000 megawatts above the CAISO forecasted level of 41,721 megawatts prior to event. With the net interchange and 35,600 megawatts available at $250, the CAISO was able to ensure sufficient supply to meet 43,100 megawatts of demand. This data confirms that the decision to use an administrative price of $250 was reasonable with a sufficient margin for safety.

Figure 3: Supply Cost Curve and Demand (September 8, 2011)



13. Throughout the entire event, the market systems still continued to run. At about 7:30 p.m., the CAISO successfully isolated the San Diego load from the market solution. However, as actual restoration switching was

occurring in San Diego, the market topology erroneously considered load in San Diego that was reconnected shortly after 9:00 p.m. With this inconsistent information the market results continued to remain unreliable. It took a period of time for the telemetry for the balance of the CAISO balancing authority area to catch up with the market systems in combination with the correct state estimator solution. It was not until September 9th at approximately 3:00 a.m. after the restoration completed and the topology in market solution was restored, that the CAISO was able to achieve an accurate solution for the entire CAISO system.

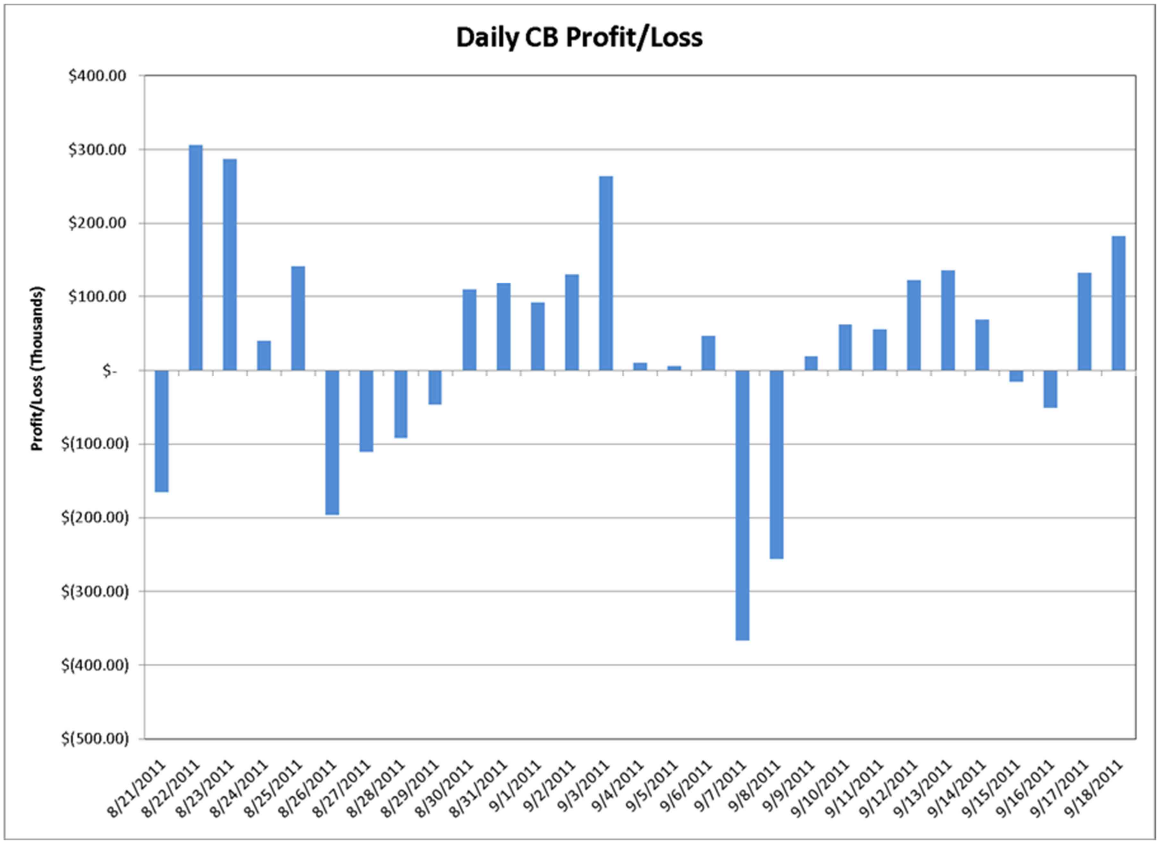
14. Following the event, the CAISO's settlements unit, at my direction, prepared an analysis of the settlement impact of the use of the administrative price (and of holding tripped generation and load harmless, as described in the waiver request) referred to as the Base Scenario compared with two other scenarios. Scenario I is the same as the Base Scenario except that tripped generation and load is not held harmless. Scenario II is an estimate of the settlement impact based on use of the administrative prices prescribed by ISO tariff section 7.7.4. The results of this analysis are set forth in the waiver request.

15. The CAISO also looked at the settlement impact on convergence bidders during the suspension period. The CAISO has settled convergence bids using the same proposed administrative prices used of $250 and $100 discussed above and used for settlement of physical resources and intertie resources (except for locations where there were resources and

load that tripped as a result of the outage event). The net settlement for virtual bidders in the Base Case reflects a net loss of $14,000. The net settlement for virtual bidders in Scenario II reflects a net loss of $127,000, a difference of $113,000. Some individual market participants' results reflect gains or losses in the Base Case that are either higher or lower than Scenario II.

16. The CAISO has estimated the total settlement for virtual bidders for the September 8, 2011 trading day, including the use of the special administrative prices in the suspension period, which amounted to a total net loss of under $250,000. Such daily net profits and losses are not out of the ordinary when compared to daily profits and losses for days prior to and after the September 8th event. Figure 4 provides the daily profits and losses for the period of September 4 through September 11, 2011. Moreover, the use of the special administrative price had little effect on the total net settlements for the days affected by the outage. Indeed, in Scenario II, virtual bidding losses would have been $113,000 greater.

Figure 4



I declare, under penalty of perjury, that the foregoing statements are true and correct.

Executed this 26th day of October, 2011, in Folsom, California.

/s/ Mark A. Rothleder
Mark A. Rothleder

Exhibit 3

Exhibit 3A

Summary of Charge/ Payment For Market Suspended Hours

Bid Cost Recovery (Gen+Import)	$ (402,609.26)
Exceptional Dispatch (Gen+Import)	$ (5,329.71)
Imbalance Energy (Gen+Import)	$ (1,831,094.17)
Imbalance Energy (Load+ Export)	$ (1,444,336.15)
Grand Total	$ (3,683,369.30)

Summary of Allocation Cost to Measured Demand

Payment/ Charge Category	Amount
Bid Cost Recovery	$ 402,609.26
Exceptional Dispatch	$ 5,329.71
Real-Time Offset	$ 3,210,507.69
Grand Total	$ 3,618,446.65

A negative amount represents a payment to market participants and positive amount represents a charge to market participants. All numbers presented on this slide is based on preliminary settlements data.

Exhibit 3B

Summary of Charge/ Payment For Market Suspended Hours under various scenarios

Summary of Payment/Charge to Generation, Load, Import and Export

Payment/ Charge Category	Base Scenario ($250/$100 Admin Pricing + Force Majeure)	Scenario I (No Force Majeure)	Scenario II (Section 7.7.4 Admin Pricing)
Bid Cost Recovery (Gen+ Import)	$ (402,609.26)	$ (533,671.69)	$ (453,996.71)
Exceptional Dispatch (Gen + Import)	$ (5,329.71)	$ (1,397.42)	$ (11,670.22)
Imbalance Energy (Gen + Import)	$ (1,831,094.17)	$ 2,703,809.49	$ 755,629.00
Imbalance Energy (Load + Export)	$ (1,444,336.15)	$ (4,765,811.23)	$ (1,295,791.12)
Grand Total	$ (3,683,369.30)	$ (2,597,070.86)	$ (1,005,829.06)

Summary of Allocation Cost to Measured Demand

Payment/ Charge Category	Base Scenario ($250/$100 Admin Pricing + Force Majeure)	Scenario I (No Force Majeure)	Scenario II (Section 7.7.4 Admin Pricing)
Bid Cost Recovery	$ 402,609.26	$ 533,671.69	$ 453,996.71
Exceptional Dispatch	$ 5,329.71	$ 1,397.42	$ 11,670.22
Real-Time Offset	$ 3,210,507.69	$ 2,030,211.83	$ 362,302.42
Grand Total	$ 3,618,446.65	$ 2,565,280.94	$ 827,969.36

A negative amount represents a payment to market participants and positive amount represents a charge to market participants. All numbers presented on this slide is based on preliminary settlements data.

Exhibit 3C

Market Impact : IOU Offset Allocation

IOU-SC	Allocation of Real-Time Energy Offset
PG&E	$ 1,155,367
SCE	$ 1,308,275
SDGE	$ 19,391

A negative amount represents a payment to market participants and positive amount represents a charge to market participants. All numbers presented on this slide is based on preliminary settlements data.