

## DECLARATION OF DR. KEITH E. CASEY

State of California            )  
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City of Folsom                )

I, Dr. Keith E. Casey, declare as follows:

1. My name is Keith Casey, and I am an economist employed by the California Independent System Operator Corporation (“CAISO”) in its Department of Market Analysis (“DMA”). My position is Manager of Market Analysis and Mitigation. I am responsible for assessing the effects of market rules and design features on ISO market performance and for developing market redesign proposals to enhance market efficiency. My current work involves analyzing the structure of incentives and bidding strategies associated with existing and alternative design options, to minimize the opportunity for manipulation of ISO markets and abuse of market power. In that capacity, I have responsibility for monitoring the operation of the electricity markets in California, with particular emphasis directed at analyzing the potential for, and recommending remedies to protect against, the exercise by market participants of market power.

2. I received my Ph.D. in Environmental and Resource Economics from the University of California, Davis in 1997. I have been with the ISO since December 1997, prior to which I conducted post-doctoral research and taught environmental economics at the University of California, Davis.

3. As part of my responsibilities at the CAISO, I have analyzed the price mitigation plan proposed by the Federal Energy Regulatory Commission (“FERC”) in its Order establishing Prospective Mitigation and Monitoring Plan for the California Wholesale

Electric Markets and Establishing an Investigation of Public Utility Rates in Wholesale Western Energy Markets issued April 26, 2001.

4. Among the deficiencies in the mitigation proposed in that Order, two are of particular importance: (1) mitigation is limited to hours when the ISO has declared a system emergency; and (2) mitigation is easily circumvented by exporting power out of California and selling it back at an unmitigated price. The latter deficiency is commonly referred to as “megawatt laundering”. There are other aspects of the Order that raise concern about its effectiveness in mitigating market power, but in my mind, these two are the most fundamental.

5. It is most important to appreciate that the ability of market participants to exercise significant market power in California’s electric markets is not limited to hours when the ISO has declared a system emergency. If one’s intent is to mitigate all opportunities for suppliers to exercise “significant” market power, which I am advised is the Commission’s statutory obligation, there simply is no economic logic for limiting mitigation to only those hours in which the ISO has declared a system emergency. While I agree that a supplier’s ability to exercise market power is likely to be greater under emergency conditions, this is no basis for concluding that significant market power cannot be exercised in non-emergency hours. To the contrary, both DMA and the independent Market Surveillance Committee (“MSC”) have provided analyses to the Commission indicating that significant market power has and can be exercised in all hours of the day. In fact, DMA has provided the Commission with an analysis indicating that over 54% of the total estimated cost impact of market power for the period March 2000 through February 2001 occurred in non-emergency hours. Other studies by both

DMA and the MSC have indicated that significant market power has been exercised in months where there were very few system emergencies.

6. Fundamentally, the ability of market participants to exercise market power depends on the extent to which a market participant has enough available capacity to be pivotal in the market. If demand cannot be met without using a particular market participant's available capacity, then that participant is "pivotal" in the sense that it has the ability to influence the market clearing price. As supply margins (the difference between available supply and demand) become tighter, more market participants become pivotal and the likelihood of market power being exercised increases. In this regard, FERC is correct in stating that market power is most likely to be exercised under the most severe supply/demand imbalances (*i.e.* during system emergencies). However, the fact that these are the hours where market power is most likely to be exercised does not in any way imply that significant market power has not or will not occur in other hours. As mentioned, DMA and MSC analyses strongly suggest the contrary.

7. It is also critical to appreciate that no matter how comprehensive price mitigation is, if that mitigation is confined to California, a significant, disruptive loophole will exist undercutting the ability of the California-only price mitigation to be at all effective. This loophole is commonly referred to as "megawatt laundering".

8. In the price mitigation element of the April 26<sup>th</sup> Order there is an asymmetric treatment of bids from generation units and marketers, which essentially invites California generators to megawatt launder. During mitigated hours, dispatched bids from generating units that are priced above the proxy market clearing price must be justified based on a showing of the actual operating cost of the unit, but similar bids

from marketers need only be justified based on the marketer's purchase cost of energy. This asymmetry creates a very obvious opportunity for circumventing the price mitigation. California generators simply can sell power forward to marketers at high prices, and the marketers can in turn sell the power to California at even higher prices in real time. It is important to realize that this megawatt laundering opportunity does not require that the same entity that exports the generation must also import it. If that were the case, there might be some opportunity to monitor for this type of activity. The laundering could be as simple as Generator A selling his 3,000 MWh portfolio to Marketer B for \$1,000/MWh and Marketer B selling this energy to the ISO at \$1,100/MWh (*i.e.* purchase cost plus 10% return on cost). Generator A is happy, particularly if his proxy bid price is \$300/MWh, and Marketer B is happy with a 10% return that can easily be justified to FERC. Of course, Marketer B might push the deal a bit further and ask for a cut of Generator A's profits, in which case both would agree to report the transaction price at \$1,000/MWh but would settle on a lower price (*i.e.* \$700/MWh). This is a rather simple example where the generator is only one step removed from delivery. A more likely scenario, is where Marketer B sells the power to another marketer who in turn sells it to another who in turn sells it to another etc., and the generator ends up being many steps removed from the final sale into the ISO real-time market.

9. It is important to understand that when prices in one part of an interdependent market are left unmitigated, supplies will gravitate to that unmitigated segment. The western market is interdependent, and California is, and for the foreseeable future will remain, a net importer of electricity.

10. To mitigate against the megawatt laundering opportunity, FERC would need to do two things: (1) mitigate spot energy prices throughout the entire western region during mitigated hours which, as noted above, should be all hours; and (2) not allow marketers to justify real-time market bids based on purchase costs. The ISO described why these two mitigation elements are necessary in its comments to the Commission's proposed west-wide 206 investigation and price mitigation in spot markets throughout the western region. In those comments, the ISO emphasized that this approach does not mean that marketers who purchased energy above the mitigated real-time price will lose money. This would only happen if they waited to real-time to offer their energy to load serving entities ("LSEs"). Marketers will have ample opportunity to offer their energy at prices higher than the expected mitigated spot price, prior to real-time. Additionally, LSEs will have an incentive to buy forward at prices above the expected mitigated spot price in order to secure energy prior to real-time where, under a western-wide mitigated price, they would have no assurance of being able to attract supplies from other control areas. Thus, this approach provides balanced incentives where both buyers and sellers are encouraged to transact on a forward basis, thereby eliminating the market power driven, frenzied bid-up in prices that occurs leading up to real-time in today's market, and it eliminates the megawatt laundering opportunity since all bids will be subject to a cost-based proxy price.

I declare under penalty of perjury that I believe the foregoing to be true and correct. Executed this 24<sup>th</sup> day of May 2001.

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Dr. Keith E. Casey