

Memorandum

To: ISO Board of Governors
From: Jim Detmers, Vice President of Operations
Alan Isemonger, Manager Market Information
Date: August 29, 2007
Re: Briefing on Price Behavior in the California ISO Balancing Energy Market

This memorandum is a status report and does not require Board action.

The complete report can be found online at <http://www.caiso.com/179d/179ddbce22760.html>

EXECUTIVE SUMMARY

This report was written to specifically analyze the underlying causes of price spikes in the California ISO Balancing Market in response to a series of questions posed by board member concerning the frequency of such spikes. The intention was to arrive at some conclusion as to whether or not price spikes were legitimate. "Legitimacy" in this paper was linked to avoidability. Price spikes caused by unavoidable physical grid events, such as generators tripping off-line were characterized as legitimate, as a balancing market is explicitly tasked with responding to such events. Price spikes that occurred but were in some way avoidable were characterized as less legitimate. This report does not deal with other equally valid issues that might compromise the legitimacy of price spikes such as market power issues that might contaminate the bid prices prior to market operation. Rather it assumes away market power issues and addresses design/implementation/business practice issues and how they affect pricing behavior.

The analysis presented in this report demonstrates that not all price spikes are equivalent. Although price spikes seldom have a lone cause the true importance of price spikes lies in the details and legitimacy of their origin. Price spikes caused by unexpected events clearly are legitimate and are part of the normal functioning of a healthy market. Once this has been determined no further analysis is needed. Price spikes rooted in avoidable circumstances however are much different. In this case price spikes that might be legitimate in the short term might well be illegitimate in the long term simply because something can be done to mitigate them, and it is this second class of "avoidable" price spikes that is worthy of further study. The examples explained in this report demonstrate three categories, namely price spikes related to something of questionable legitimacy, which in this case is the inertia pre-dispatch problem; something that is legitimate in the short term, but needs to be solved in the long term (and is being solved by MRTU), namely the way interchange schedules are modeled; and finally something which, at the very least, should be looked at once some of the larger redesign issues are taken care of under the MRTU program, namely the CAISO hourly scheduling practices for internal and external generators.