MEMORANDUM

Brobeck
ATTORNEYS AT LAW

TO: **Richard Sanders**

FROM: **Gary Fergus**
Jean Frizzell (Gibbs & Bruns LLP)

SUBJECT: Status Report on Further Investigation and Analysis of EPMI Trading Strategies

DATE:

CC: **Tim Belden**
Michael Kirby
Barrett Reasoner

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As part of our preparation for the various investigations and litigation actually and potentially facing EPMI in connection with the California energy market, Jean Frizzell, Barrett Reasoner, Mike Kirby and Gary Fergus spent several full days over the past few months at EPMI for the purpose of learning and understanding more about the data, methodology, the various strategies used by the traders and the implementation of those strategies. This is a highly complicated subject matter and all of us are still learning.

We used as our starting point the Preliminary Memorandum dated December 8, 2000, which we understand was prepared as the first step in educating you and outside counsel about EPMI trading practices. The Preliminary Memorandum was written by Steve Hall, an associate on loan from the Stoel Rives law firm, and co-authored by Christian Yoder, the in-house counsel at EPMI. Over the course of the past month, we have spent a fair amount of time with a number of traders. In some instances, we met the same traders more than once to try and understand the various practices. On January 11th, we spent another full day with Tim Belden, chief trader for EPMI in Portland going over the strategies that have been identified. Here is our summary of the status of our further investigation and present analysis of the EPMI trading practices:

Overview

The California energy market during calendar year 2000 was an incredibly complex and dynamic environment. Weather, supply shortages, physical limits and market volatility contributed to this environment. During the past month, we have had several outside law firm lawyers, each with varying degrees of experience with California electricity market, work together with the EPMI traders to understand the market and the practices. From time to time, the understanding of and interpretation by the lawyers interviewing the same traders about the market and the trading practices were inconsistent. When that happened, we would go back to the traders to try and gain a common understanding of the particular market and trading strategy. At this point in the process, we realize that there are very few clearly defined trading strategies. Depending upon the particular circumstances of the day, trading strategies were modified and applied in response to EPMI's portfolio, market conditions, the individual trader's understanding of them, and the individual trader's preferences within a larger overall framework. In part, this is because trading is done 7 days a week for many different schedules (e.g. PX day ahead, PX day of, ISO hour ahead, ISO real time etc

EPMI is only one of many market participants. We do not have nearly enough information to gain a good understanding of all of the impacts other participants, and whatever their strategies might have been, had on the market. For these reasons, you should consider this a work in progress, rather than the definitive analysis of EPMI trading practices. We may learn that some of the conclusions we have reached will later turn out to be inaccurate. In fact, we learned during this process that some of the information contained in the Preliminary Memorandum, which resulted in some erroneous assumptions and conclusions, cannot be supported by the facts and evidence which are now known. In other instances, some statements in the Preliminary Memorandum understandably mixed trading strategies and schedules. In order to minimize the risk of confusing matters further, we have taken the additional step of having Tim Belden review this memorandum to see if we have accurately described the trading practices and to see whether he can spot any flaws in our analysis. We tried to follow the same format of the Preliminary Memorandum for easy cross reference.

"Incing" Load into the Real Time Market

"Incing" was a slang name (short for "increasing") for a trading strategy used in response to the independently owned utilities (IOU) well known and documented strategy of significantly underestimating their load in the PX day ahead market. This practice by the utilities apparently occurred almost daily. Because the IOU's purchased their power through the PX day ahead market, the PX thus became their scheduling coordinator; the ISO's resulting schedules understated the load for the next day. The IOU practice of underestimating load artificially lowered the PX day ahead market clearing price. Incing served to partially counteract the reliability issues caused by this practice and, from the California consumer's perspective, appears to have been preferable to the alternative of selling outside of California. In addition, incing may have increased the actual guaranteed available supply of power in the California market depending upon the shape of the demand curve. Incing reduced demand in the ISO market, therefore reduced the ex post price and potentially lowered the overall cost to California consumers. When incing, EPMI was a price taker in the ISO ex post market.

Death Star

Death Star was a slang name for a strategy that addressed congestion between northern and southern California. During certain periods, there are transmission limits between northern California and southern California on path 15 and path 26. It appears that the source of the congestion may have been the consistent underestimating of load by PG&E – the same underestimating referred to above. Because the demand was artificially lower in Northern California, it appears supply was trying to move to southern California. By using a combination of ISO approved scheduled counterflows and alternative non-ISO transmission lines, EPMI increased the transfer capability between the regions, reduced congestion, and utilized underused pathways to increase the overall supply of electricity in southern California. By virtue of using multiple transmission paths, EPMI took on financial risks, including having the transmission line derated, assessment of additional congestion charges, and liability for take or pay transmission charges on alternative transmission lines to execute the strategy.

Contrary to certain statements in the Preliminary Memorandum, congestion was relieved and energy did flow through otherwise underutilized paths.

Load Shift

Load shift is a general term used to describe a variety of scheduling practices and trading strategies in the day ahead and hour ahead markets. One variation of load shifting involved scheduling ISO approved counterflows in the ISO day ahead market, ISO hour ahead market or both. Generally speaking, as an alternative to purchasing power in the north, EPMI purchased power in the south and counterflowed that power to the north. Such transactions had the effect of providing congestion relief in the ISO day ahead market or the ISO hour ahead markets. These transactions placed EPMI at financial risk for the differences in price between the regions.

Another category of load shifting involves shifting the load on paths for which EPMI purchased firm transmission rights. This category was briefly discussed in the Preliminary Memorandum. We have learned more about this load shifting strategy since the Preliminary Memoranda was written. As the result of several in depth interviews with the traders and review of the public market surveillance reports available to the public and all market participants, it is apparent that the assumptions and conclusions contained in the Preliminary Memorandum were inaccurate. First, in hindsight, it now appears likely that the load shifting strategy, without knowing the impact of other market factors, sometimes may have reduced the prices in the north while leaving prices in the south unchanged or minimally impacted. Second, it appears that the estimate of profits from this load shifting strategy in the Preliminary Memorandum was vastly overstated and indeed confused. It would appear that the source of the confusion may have been that the Preliminary Memorandum reported the total profit attributable to the EPMI firm transmission rights on path 26, as reflected in ISO public documents, as opposed to any calculation of the profit of this particular strategy.

Get Shorty

"Get Shorty" was the slang name for a trading strategy involving the provision of ancillary services in the PX day ahead and ISO hour ahead markets. EPMI committed to providing the ancillary services in the PX day ahead market and covered its position by purchasing those services in the ISO hour ahead market. Accordingly, EPMI actually purchased the services

necessary to provide ancillary services if called upon to do so. In fact, the ISO regularly called upon EPMI for ancillary services that were provided. Based upon the information we have so far, there was only one incident where EPMI failed to cover its position. In that single instance, EPMI promptly offered to, and ultimately did, return the payment received for the ancillary services that were not provided. Accordingly, the strategy did not impact the reliability of the grid. This strategy, however, did place EPMI at financial risk. On a number of occasions, it appears the cost to cover exceeded the amount received in the day ahead market and EPMI provided services to the ISO at a loss.

The Preliminary Memorandum incorrectly assumed that the information provided to the ISO was inaccurate. It now appears that, consistent with daily ISO practices, that EPMI did not specify the source of the ancillary services at the time of sale.

Ricochet

"Ricochet" was the slang term for a trading strategy that existed because EPMI was not permitted to make adjustment bids in SC to SC (scheduling coordinator) trades due to limitations in the ISO software systems. Ricochet served the dual purpose of allowing for adjustment bids and opening up market options for EPMI including the supplemental and bilateral markets. By using this strategy, EPMI was at financial risk if the PX price exceeded either the supplemental or bilateral market price. Furthermore, the ISO software limitation forced EPMI to incur additional costs, export charges, ancillary services on exports and line losses on imports.

Ricochet appears not to have been a strategy that was used to a significant extent when compared to EPMI's overall portfolio. It appears that other market participants with control areas adjacent to California and access to extremely flexible generation resources may have relied more extensively on this strategy.

At the present time, EPMI faces its own software limitations in implementing ISO approved adjustment bids in SC to SC transactions.

Non-Firm Export

This was a trading practice that involved scheduling counterflows three hours ahead of the time energy would flow. The scheduled counterflow had the likely effect of reducing the congestion charge on the scheduled path. Under this strategy, EPMI qualified for the congestion relief payment two hours before the scheduled flow. Ultimately, EPMI did not flow the power. Based upon the information we have, this practice does not appear to have had any demonstrable impact on either the PX price or the ISO ex post price. However, in August 2000, the ISO directed that the practice be discontinued. The EPMI traders with whom we spoke confirmed that EPMI has complied with that mandate.

Selling Non Firm Energy as Firm Energy

This was a trading strategy that was occasionally used in southern California to allow for the import of power that would otherwise not be available. The net effect of this practice, in conjunction with other market factors, was to increase the overall supply with no apparent impact on PX price. EPMI was subjected to financial risk in that if the non-firm power was cut,

EPMI would have to cover the energy cut by purchasing that power in the ISO market at the ex post price.

At this time, it appears that the net result of this practice was to bring additional supply into California.

Scheduling Energy to Collect the Congestion Charge II
The net effect of this strategy was to schedule counterflow thereby reducing congestion in hour ahead market. This was a high risk strategy because EPMI was exposed to the ex post market price that could exceed the congestion price. This strategy could have potentially lowered the congestion charge depending upon a wide variety of other market factors.