



CALIFORNIA ISO

California Independent
System Operator

June 2, 2003

The Honorable Magalie Roman Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

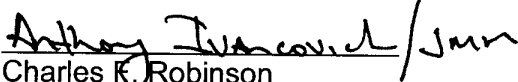
**Re: California Independent System Operator Corporation,
Docket Nos. ER02-1656-009, 010 and 011 and Investigation of
Wholesale Rates of Public Utility Sellers of Energy and
Ancillary, Services in the Western Systems Coordinating
Council, Docket No. EL01-68-017**

Dear Secretary Salas:

Enclosed for filing in the above-captioned dockets, please find the Status Report of the California Independent System Operator Corporation ("ISO") that will be released to the public.

Simultaneous with the instant filing, the ISO is submitting a version of the Status Report that contains confidential information. In the instant version of the Status Report, the confidential information, *i.e.*, **Attachment A**, has been redacted. In all other respects, the version of the Status Report to be released publicly is identical to the version of the Status Report that contains confidential information.

Respectfully submitted,


Charles K. Robinson

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Attorneys for the California Independent
System Operator Corporation

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

California Independent System Operator Corporation)	Docket No. ER02-1656-000
)	
)	
Investigation of Wholesale Rates of Public Utility Sellers of Energy and Ancillary Services in the Western Systems Coordinating Council)	Docket No. EL01-68-017
)	
)	

**STATUS REPORT OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

The California Independent System Operator Corporation (“ISO”)¹ respectfully submits this monthly progress report (“Report”) in compliance with the Commission’s November 27, 2002 “Order Clarifying The California Market Redesign Implementation Schedule”, 101 FERC ¶ 61,266 (2002) (“November 27 Order”), issued in the above-referenced dockets.

The November 27 Order required the ISO to file reports on the first Monday of each month, beginning in January 2003, to update the Commission on the ISO’s progress in designing and implementing the ISO’s Market Redesign (“MD02”). The Commission directed the ISO to file a full MD02 implementation plan, including a detailed timeline with the sequential and concurrent nature of the design elements, the software and vendors (once selected) to be used and

¹ Capitalized terms not otherwise defined herein are used in the sense given in the Master Definitions Supplement, Appendix A to the ISO Tariff.

the cost estimates for each element. The November 27 Order required that the first report include explanations of the following: (1) any alternative methods of developing MD02 elements; (2) the ISO's progress in developing MD02 elements; (3) the action required to establish such elements; and (4) a detailed breakdown of the total start-up costs.² The Commission directed the ISO to update the MD02 implementation plan on a monthly basis, indicating the progress made and the upcoming steps.

On January 10, 2003, the ISO filed its first Status Report in compliance with the November 27 Order. Subsequent to the first filing, the ISO has continued to file monthly Status Reports with the Commission on the first Monday of each month. The instant Report is intended to satisfy the monthly reporting requirement in the November 27 Order, update the information included in prior Status Reports, and generally advise the Commission of the current status of MD02 implementation.

I. JUNE STATUS REPORT

Section A includes a narrative of the significant changes to the "MD02 Program Plan – High Level" schedule that have occurred since the filing of the April 7, 2003 Status Report. Section B includes a narrative regarding the MD02 budget along with an updated Budget Tracking and Status Report.³ The Budget Tracking and Status Report is contained in **Attachment A**. Attachment A continues to remain confidential at least until the ISO has negotiated and contracted with bidders for significant portions of the required functionality. In

² November 27 Order at P 9.

that regard, it would not be commercially prudent to reveal estimates of vendor costs prior to negotiation and contracting with successful bidders. Section C identifies the ISO's key MD02 implementation issues including the previous month's accomplishments, major milestones, upcoming activities, issue resolution with stakeholders and items requiring timely resolution by the Commission in order to meet the project schedule.

A. Current Project Timeline

Phase IB: The ISO performed its first Market Simulation for the Scheduling Infrastructure-Workspace functionality with Market Participants. The ISO is performing preliminary Real-Time Market Applications Factory Acceptance Testing. The ISO intends to file with the Commission Phase IB Tariff language, *i.e.*, Amendment 53, with the Commission in June 2003. The projected Phase IB implementation date continues to be October of 2003.

Phases II and III: Four ISO business unit teams -- representing markets, commercial aspects, Information Services and project management -- completed their interviews with each bidder's references on May 5, 2003. During the week of May 19th, the ISO business unit teams conducted vendor interviews and are in the process of identifying the preferred vendor for providing services identified in the Integrated Forward Market/Locational Marginal Pricing using the Full Network Model Request For Proposals ("IFM/LMP RFP").

³ The narrative includes only non-confidential information.

B. MD02 Budget Update

Attachment A -- the Budget Status and Tracking Report (which remains confidential) -- compares actual expenditures to forecast expenditures. Specifically, Attachment A shows the budgeted amounts, the amounts authorized by the ISO Board of Governors ("Board"), the amounts that have been approved through the internal ISO accounting process, and actual expenditures to date. The Budget for the MD02 program continues to operate within the forecasted amounts and the ISO 2003 capital budget and unbudgeted items are currently under evaluation. ISO Management intends to present budget forecast adjustments to the Board of Governors in June 2003.

C. Key Issues

1. Settlements Request for Proposal

In the May 5, 2003 Status Report, the ISO reported that the ISO released the Phase II and Phase III Settlements and Market Clearing Systems Request for Proposals ("Settlements RFP") on April 24, 2003 to potential vendors that the ISO determined are qualified to provide such a system. The ISO received responses for the Settlements RFP from four vendors on May 23, 2003. The ISO expects that the evaluation process will take 10 to 12 weeks. The ISO will keep the Commission apprised of the vendor selection process in subsequent Status Reports.

2. Phase IB Technical Issues

On March 11, 2003, the Phase IB team began conducting bi-weekly conference calls to discuss issues that arise and to keep stakeholders apprised

of the implementation of Phase IB. The ISO continues to work with Market Participants through bi-weekly conference calls. Topics discussed in May included the process for transferring the technical requirements and specifications for real-time electronic notification of outages through the SLIC program and Automatic Dispatch System.

3. Locational Marginal Pricing Studies

ISO Staff is currently working on implementation issues related to the alternating current (“AC”) power flow model and load zone definitions that will be used to produce the studies. The ISO anticipates providing interim results from the third LMP dispersion study at the end of June 2003.

4. Congestion Revenue Rights Study

A Congestion Revenue Rights (“CRRs”) study has been initiated to determine how many CRRs will be available for load serving entities (“LSEs”). There continues to be some reluctance by certain Market Participants, including the Western Area Power Administration (the Federal agency responsible for marketing power produced by the Central Valley Water Project resources) to release source and sink information that is required to make the study meaningful. Even if the required information were provided to the ISO immediately, the ISO expects that the study would not be completed any earlier than June 30, 2003.

5. LMP Cost-Benefit Analysis

In the April Status Report, the ISO reported that, in response to a request from California State Legislators, the ISO Board of Governors directed that a “peer reviewed” cost-benefit analysis of LMP be performed. The ISO interviewed four nationally recognized consulting firms that have performed, or are capable of performing a LMP cost-benefit analysis and identified a preferred firm. The ISO and members of the Market Surveillance Team met with representative of the California State Legislators in May to discuss the costs of performing the LMP cost-benefit analysis. We have reached agreement to proceed with the implementation process and to use the period between Phase II and Phase III as the testing period. (See Attachment B – Chairman Kahn’s Letter to California Legislature and Attachment C – Market Surveillance Committee’s Comments on Locational Marginal Pricing and the ISO’s MD02 Proposal).

6. Stakeholder Participation

The ISO outreach effort to stakeholders outside of the Phase 1B technical calls and posting of design proposal for comment prior to seeking approval for filing from the Board of Governors has been focused on meeting with subsets of the stakeholder community in smaller groups. These meetings have the general tone of explaining the comprehensive design components and responding to stakeholder concerns.

7. Comprehensive Market Design Proposal Filing

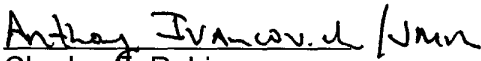
At the June 6, 2003 ISO Board of Governors’ meeting, ISO Management will seek authorization from the Board to file its MD02 revised Comprehensive

Market Design Proposal with the Commission. Additionally, the ISO posted the revised Comprehensive Market Design Proposal to its website to allow Market Participants the opportunity to comment on the proposal prior to the June 6th meeting. The revised Comprehensive Market Design Proposal was posted to the ISO website on May 27, 2003 with comments due back by June 2, 2003. Those Market Participants providing written comments on the document will be afforded an opportunity to voice their concerns during the June 6, 2003 Board meeting.

II. CONCLUSION

In Section I of this Report, the ISO has responded to the Commission's request for specific information on progress, critical issues, budget and alternative methods for the MD02 implementation effort. The ISO appreciates having the opportunity to comment and report on the progress being made in MD02.

Respectfully submitted,


Charles P. Robinson
Anthony J. Ivancovich

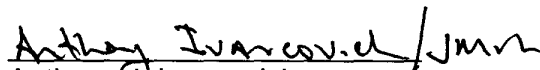
Counsel for the California Independent
Operator Corporation

Dated: June 2, 2003

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon the Public Utilities Commission of the State of California, upon all parties of the official service lists maintained by the Secretary for Docket Nos. ER02-1656-000 and EL01-68-017.

Dated at Folsom, California, this 2nd day of June 2003.


Anthony Ivancovich
The California Independent System
Operator Corporation
151 Blue Ravine Road
Folsom, California 95630

ATTACHMENT A

**Privileged Information Has Been Redacted
Pursuant to 18 C.F.R. § 388.112**

ATTACHMENT B



May 16, 2003

Senator John Burton
Senator Debra Bowen
Senator Byron Sher
Senator Joseph Dunn
State Capitol
Sacramento, CA 95814

Dear Senators Burton, Bowen, Sher and Dunn,

On May 13, 2003, ISO Board Member Michel Florio, Drs. Frank Wolak and Jim Bushnell from the ISO Market Surveillance Committee (MSC), Randy Abernathy, ISO Vice President of Market Services, and additional ISO staff met with Mr. Lawrence Lingbloom of Senator Bowen's staff and Mr. Christian Schreiber of Senator Dunn's staff. The purpose of the meeting was to discuss the ISO's Market Design 2002 ("MD02") initiative and to confer on the potential costs and benefits of proceeding with the requested Locational Marginal Pricing ("LMP") cost/benefit analysis. I hope Mr. Lingbloom and Mr. Schreiber share the ISO management's view that the meeting was productive and informative.

As I understand the conclusion reached as a result of this meeting, as well as prior conversations and input from the MSC members, there is mutual agreement that undertaking the requested LMP analysis would be of questionable value given the weakness of using simulated data, particularly relative to the substantial cost associated with undertaking the study. The discussion also enabled us to come to a common understanding of what LMP is and what it is not. As the ISO representatives acknowledged, the primary benefit of LMP is that it is aligned with and supports the ISO's core functions – ensuring reliable system operation and efficiently allocating and managing use of the transmission system. As was discussed, LMP effectively mirrors and reinforces the dispatch instructions of grid operators, thus supporting reliable operation of the grid. (For your information and review, we have attached the ISO's Market Surveillance Committee's final opinion regarding LMP.)

To be clear, implementation of LMP will not suddenly result in new transmission and generation investment – both of which California sorely needs in our opinion. State policymakers are best suited to address these matters as you all move forward to establish a framework that supports infrastructure investment and ultimately, resource adequacy. Our objective with rehabilitation of the wholesale spot market is to support and complement the efforts of the State. To that end, the ISO expects that MD02 will provide useful and critical information to investors and policymakers alike for evaluating the appropriate location and magnitude of needed infrastructure investments. Specifically, LMP will develop precise transparent prices that show the value of generation and the cost associated with delivering power to load at each location.

Another critical topic that came up in the May 13 meeting was the subject of local market power mitigation. During that meeting, the MSC and ISO Management were emphatic about the need to secure adequate local market power mitigation tools from FERC. The ISO intends to strongly emphasize the need for adequate local market power mitigation in our upcoming conceptual filing. We will request specific local market power mitigation tools similar to those provided by the FERC to PJM, New York, New England, and the Midwest. We will emphasize that, without these just and reasonable tools, we do not believe that California's implementation of LMP can be successful.

As you are aware, the existing market design is seriously flawed and subject to manipulation. We must underscore our belief – a belief that is shared by the MSC and others – that if we do not move forward expeditiously to reform the market, California consumers will continue to be exposed to unnecessarily high prices

and the costs imposed by those parties that may continue to abuse the existing design. While the ISO acknowledges that our market fixes are not the sole solution to address California's comprehensive energy needs, we anticipate that the proposed design changes will stabilize California's wholesale spot markets by providing tools to secure and optimize supply resources in advance of real time, thereby reducing last-minute volatility, increasing reliability, and eliminating known market flaws that create gaming opportunities.

In response to the request from your staff regarding presentation of plans going forward, we offer critical next steps for implementing MD02. First, if the ISO is to implement, as proposed, the next major phase of MD02 (Phase 2 – implementation of the integrated forward market) prior to Summer 2004, the ISO must file for approval at FERC an updated MD02 conceptual design proposal. The conceptual design proposal will explain and support all features of the proposed design, including LMP (modified since our last filing to include provisions for aggregation [averaging] of wholesale prices) and reinforce the need for adequate local market power mitigation tools. FERC would need to approve the conceptual design before the ISO proceeds with creating Tariff language for full MD02 implementation. At this juncture, ISO Management plans to resume MD02 implementation as revised and to seek ISO Governing Board approval of the updated MD02 conceptual design at the June 6, 2003, Board meeting.

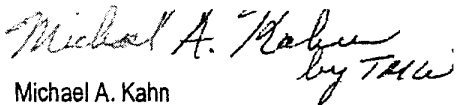
Finally, as we have discussed with your staff before, the ISO currently proposes to implement LMP in the fall of 2004. Prior to the implementation of LMP, and concurrent with the implementation of the integrated forward market in Phase 2, the ISO proposes to generate and publish, but not charge, Locational Marginal Prices using actual market bids so that all parties can begin to assess and understand the implications of LMP. Although the ISO does not propose to charge load on an LMP-basis, we believe it is important for all parties to understand how LMP works. During this approximately three-month study and testing period, should the ISO identify any unanticipated LMP results, we will obviously assess the meaning and implications of these results and adjust the implementation of LMP with direction from the ISO Board and in coordination with key state policymakers, including you.

We share your concern that any new market design must be implemented so that it best serves the ratepayers of California. We will continue with this concern at the forefront of our priorities.

I believe that the relationship between your offices and the ISO during exploration of the LMP issue well served the people of the State of California. Thank you for your interest and support of our efforts.

As always, should you have any further questions regarding MD02 implementation, please feel free to contact ISO staff or me.

Sincerely

Handwritten signature of Michael A. Kahn in cursive script.

Michael A. Kahn
Chairman, California ISO Board of Governors

cc: Lawrence Lingbloom
Kip Lipper
Chris Schreiber
Brian Kelly
ISO Governing Board
Dr. Frank Wolak
Dr. Jim Bushnell
ISO Officers

ATTACHMENT C

**Comments on Locational Marginal Pricing and the California ISO's
MD02 Proposals**

**Market Surveillance Committee of the California ISO
Frank A. Wolak, Chairman; Brad Barber, Member;
James Bushnell, Member; Benjamin F. Hobbs, Member**

April 7, 2003

Summary

We have been asked to comment on the relationship between Locational Marginal Pricing (LMP) and the ISO's Market Design 2002 (MD02). Concerns have been raised about the uncertain impact of MD02, in general, and LMP in particular on California consumers. It has been argued that extensive testing is needed before implementing MD02. We agree with these concerns. However, we also feel that the ISO's most recent plan for testing and implementing its MD02 design, for the most part, satisfies the concerns that have been raised. The application of LMP to retail loads has been indefinitely postponed, and participants will therefore have ample time to observe the actual prices resulting from market operations before any decisions about application of those prices to retail loads are taken. The current schedule for implementation of MD02 is by no means hasty and already calls for extensive *testing* during parallel operations with existing systems, as opposed to simulations using predictions about prospective market conditions. One lesson from the events of May 2000 to June 2001 is that suppliers will exploit market design flaws in ways that are difficult to predict in advance. Consequently, the ISO's approach of parallel operations is currently the most reliable form of testing the potential impact of LMP on California consumers. Market participants will have ample opportunity to analyze the impact of LMP during the parallel operation of the ISO's existing market with the MD02 market design.

The Big Picture: Why Redesign the Market?

Before discussing the implications of LMP in the context of the MD02 proposals, it is worthwhile to review the motivation behind the formation of these proposals in light of the market structure that now exists in California. These proposals have at times been characterized as imposing revolutionary changes on the electricity market to a degree comparable to the changes implemented in 1998. This is simply not true. For better or worse, the impact of any ISO market rule on the electricity costs of end-users in California will be much more limited relative to the impacts of the major structural changes undertaken in 1998. A significant share of the energy consumed in California is self supplied by the utilities and a large share of the remainder will be supplied under mid-term and long-term contracts signed during the winter and spring of 2001 whose costs will be largely unaffected by ISO market outcomes.

Long-term contracts and additional generation capacity have greatly reduced the impact of system-wide market power on the ISO's energy market. One of the largest

remaining threats to the market is the local market power of some suppliers that is created by limitations in the transmission system. This is a problem that could very well get worse with the addition of new generation capacity in transmission constrained regions. The ISO needs additional tools in order to deal effectively with the problem of local market power. Such tools are an important element of the MD02 proposals. Importantly, it appears to us that the Federal Energy Regulatory Commission will not provide the ISO with the most effective local market power mitigation tools without other elements of MD02, including LMP. The ISO has made several requests, starting in 1999, for "PJM style" local market power mitigation. FERC has rejected these requests, most recently stating that it may consider providing the ISO with more effective local market power mitigation if it adopts an LMP market such as the one proposed in MD02.

While the long-term commitments now present in the system largely hedge the electricity costs of end-use customers, they do not minimize the usefulness of a short-term electricity market run by the ISO. To the contrary, given the potential rigidities introduced by a system of longer-term bilateral contracts, the efficiency and reliability of the system depend even more on having a rational, transparent market that allows firms to adjust to market conditions very different from those that existed when contracts were signed. Firms sign contracts based upon what they think average prices may be over the next 5 or 10 years. We do not want the daily operation of our electric system to be based upon the same criterion, with expensive generation operating while more efficient generation is idled simply because they had different expectations about long-term trends in electricity prices. By the same token, units should not be operated simply because the owner has a long-term physical right to a transmission interface.

Daily spot markets allow for firms to adjust their actual production and consumption decisions based upon their true current opportunities and costs. Long-term commitments help to hedge the risks of such decisions, but should not drive daily decision-making. In the electricity industry, with its enormous size and with the volatility of many of its key inputs and even demand, the ability to make short-term adjustments can reap substantial benefits. Even a 1% cost reduction is consequential in a \$250 Billion industry. The MD02 proposals are motivated by these goals.

The current ISO market design has a number of well-known flaws. Setting aside even the impacts of market power and the tremendous costs that have been borne by California consumers over the last several years, the electricity system has not operated nearly as efficiently as it could. Much of this is due to a market design whose greatest champions, such as Enron, benefited from the inefficiencies embedded in this current design, the most publicized one being the "dec game," where a supplier would overschedule at a given location knowing that the unit would subsequently be paid not to provide this energy because of local transmission constraints. Some parties continue to benefit from these inefficiencies. While the costs of the Dec game to date pale in comparison to the costs of overall market power, it remains a concern that is likely to grow more serious in the future. The fact that market redesign cannot recoup the losses of the last few years does not mean it's not worth doing.

Next Steps

There seems to be little disagreement about the need for changes to the ISO's market design and operations. At issue currently is the extent to which LMP will be a component of that market design, as well as the timing of any implementation of LMP. Concerns have been raised about the uncertain impact of MD02, in general, and LMP in particular. It has been argued that extensive testing is needed before implementing MD02. We agree with these concerns. We believe that the ISO's most recent plan for testing and implementing its MD02 design for the most part satisfies them. In reaching this conclusion, we make the following observations.

1. The application of LMP is not a revolutionary or experimental concept.

Many variants of LMP have been adopted around the world. The overall performance of those markets has varied, but it is generally accepted that such differences are due to the overall market structure and relative competitiveness of these markets. The usage of LMP has not caused significant difficulties in these regions; no market that has adopted it is considering getting rid of it, and some markets that started with a zonal model have converted to LMP. Concerns have been raised that a stakeholder process in California could lead the ISO to adopt design changes that distort a reasonably reliable and tested approach into something much less predictable. If such concerns are significant, it may be advisable to adopt an existing LMP system, such as the one that exists in PJM, with as little alteration as is practical. This may also have the additional benefit of allowing the ISO to obtain a "PJM-style" local market power mitigation mechanism.

2. The application of LMP to retail load has been indefinitely postponed.

Customers will not even have the opportunity to voluntarily enroll in a LMP based rate. The only application of LMP on the demand side would be its application to dispatchable load that is explicitly bid into the ISO market and essentially paid the nodal price to reduce consumption. While we feel that there are potentially significant cost savings that could be reaped from an eventual application of retail pricing to a level finer than the currently proposed 3 pricing zones, we are sympathetic to concerns about the unpredictable impacts of LMP on California consumers at this time. The current ISO proposal would allow for the ISO and participants to observe the resulting implied prices for a considerable time before any decisions are made about whether or how to apply them to retail loads. At the same time, the ISO and others should continue to pursue methods that would hedge the monetary impacts of LMP on given regions while still providing the right incentives for the efficient production and consumption of power.

3. Testing and Simulation are not the same thing.

Substantial criticism has been levied at the ISO's first study of the potential impact of LMP as testing a "best-case" scenario. Even the ISO acknowledges this is

true and has always planned undertaking further studies to predict the impact of MD02 rules on local prices. However, it is important to understand that such studies are just *predictions*, and predictions in electricity markets are always based on simplifying assumptions and notoriously inaccurate. It is also important to recognize that the goal of testing should be to determine the *differential* impact of LMP, as opposed to the current system, on prices, not to predict the impact of the overall market structure on prices. We have the ability to model and understand with some accuracy the impact of market power on system-wide prices. To our knowledge, there is no model that can reliably predict the incremental impact of LMP vs. another pricing system on overall prices, for the simple reason that the impacts are incremental. In other words, overall price levels are mainly driven by underlying market structure, the extent of forward contracting, and market power mitigation provisions, rather than whether LMP is used for congestion management and spot markets. We could simulate what local retail prices would result given a set of assumptions about how suppliers would bid under that system. At a minimum such an exercise would be expensive and at worst futile. It would be much more informative to calculate what local prices would result from the *actual* bids of suppliers operating under the system. The current ISO proposal would do this. At several stages of implementation, the proposal calls for running the new system in parallel with the existing system for at least several months before “plugging in” the new system to the market. To us, this constitutes the most reliable approach to testing the system. We also urge that the implementation and testing process be as transparent as possible. This would include the publication of as much detailed data as is practicable.

4. LMP-based transmission management and MD02 cannot be separated easily.

As described above, it is relatively straightforward to eliminate the impact of LMP on retail load by averaging the prices charged to load serving entities (LSEs) over large regions. It is not, however, possible to ignore the physical reality of actual transmission constraints and their impact on system operations. Simply put, transmission constraints require the ISO to call upon more expensive generation sources, since operating the cheaper sources would threaten network reliability. This means that different generators at times have to be paid different prices.

Such is the case today, as it would be under MD02. Both systems pay individual generators potentially different local prices, and charge load much more aggregated regional prices. Thus a comparison of the current system and MD02 is not about *what* is done, but *how* to do it. The MD02 proposals would improve upon today’s ad-hoc and mainly real-time approach to managing local congestion, thereby reducing overall costs and hopefully reaping savings for consumers. Now that LMP is not to be applied to retail load, it is difficult for us to see a further separation of LMP from MD02 as anything but a change in semantics.

5. Concerns about MD02 remain, but are not about adopting LMP.

Several other concerns have been recently raised in conjunction with the concerns over the introduction of LMP. These include the uncertainty about the design and allocation of CRRs and the prospects for generation and transmission investment. With LMP now to be applied to generation only, any *new* CRRs will not be needed by LSEs to hedge *intra-zonal* congestion. Firms also want to know what kinds of hedging instruments will be available for *inter-zonal* congestion, but such concerns apply whether LMP is adopted or not.

Concluding Comments

LMP is a small, but important, part of a well-functioning wholesale market for electricity. Demand-responsiveness to both locational and temporal price differences is another important source of benefits from a wholesale electricity market. LMP is a necessary step towards achieving this long-term goal. In the short-run, the phased implementation of LMP (as proposed by CAISO) carries little potential costs and provides several short-term benefits. These benefits include: (1) the ability to secure effective local market power mitigation tools from FERC, (2) reduction in undesirable trading strategies (e.g., the “dec game”), (3) greater transparency, efficiency, and reliability in system operation, (4) improved demand responsiveness (given the ability of dispatchable loads to bid and respond as generation and receive the LMP), and (5) greater granularity in the costs of transmission congestion to aid the transmission planning process.