

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR:
GOVERNANCE AND DESIGN OF CALIFORNIA'S
ELECTRICITY MARKET**

HEARING

BEFORE THE
SUBCOMMITTEE ON ENERGY POLICY, NATURAL
RESOURCES AND REGULATORY AFFAIRS
OF THE

COMMITTEE ON
GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

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CALIFORNIA INDEPENDENT SYSTEM OPERATOR: GOVERNANCE AND DESIGN OF CALIFORNIA'S ELECTRICITY MARKET

FRIDAY, FEBRUARY 22, 2002

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY POLICY, NATURAL
RESOURCES AND REGULATORY AFFAIRS,
COMMITTEE ON GOVERNMENT REFORM,
Sacramento, CA.

The subcommittee met, pursuant to notice, at 9 a.m., in room 1450, Sacramento Board of Supervisors, 700 H Street, Sacramento, CA, Hon. Doug Ose (chairman of the subcommittee) presiding.

Present: Representative Ose.

Staff present: Dan Skopec, staff director; Yier Shi, press secretary; and Allison Freeman, clerk.

Mr. OSE. Good morning, everybody. I want to welcome you to this hearing before the House Committee on Government Reform, Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs. I apologize for starting 4 minutes late.

The way these things work is, we'll have some opening statements and we'll get to questions, we'll welcome our witnesses before the questions and their statements. Everybody in these hearings gets sworn in under the Government Reform Committee's normal policies, so if we don't swear you in, remind us, we'll swear you in.

Californians are well aware that in 2000 and 2001 our State experienced an energy crisis that impacted every citizen in the State. Some Californians experienced blackouts. Others were asked to curtail energy use at key moments. All Californians saw huge increases in their natural gas and electricity bills. However, through the help of the FERC, the Federal Energy Regulatory Commission, through its adoption of a market mitigation plan, with the advantage of a cool summer, as well as normal precipitation in the West, particularly in the Pacific Northwest, and with conservation efforts by individual Californians, energy prices have now dropped back to expected levels and are far more affordable.

The energy crisis seems to have disappeared as quickly as it emerged. Given the empirical data, many people could come to that conclusion easily, and I can understand that. The fact of the matter is, energy prices are low and the lights are on. That's pretty good. Why are we having this hearing? What's the problem?

The reality is that California is not out of the woods yet. Today's witnesses will tell you that the fundamental factors that exacer-

bated the energy crisis are still with us today. California lacks an adequate energy supply. Our transmission system is old and overburdened, and, most importantly, the structure of the electricity market is dysfunctional. The market suffers from inefficiencies in terms of pricing, transparency, transmission, and settlement policies.

California must take action now to address these problems. If we don't, once the economy revives or we experience a hot summer or suffer another drought, we'll be confronting potential blackouts and prices will escalate again. Frankly, for a State facing significant budget deficits, we can ill afford another energy calamity.

At today's hearing, we will discuss the steps that California needs to take to reform its electricity markets and ensure the public that their lights will stay on and their businesses will keep running.

First and foremost in this endeavor is restoring independence to the California Independent System Operator. On January 17, 2001, the Governor dissolved the original Board of Governors of the CAISO and hand picked a new board answerable only to him. In doing so, Governor Davis violated FERC's orders of November 1 and December 15, 2000, which called for the establishment of a new board of Governors. The Davis-appointed board also violated FERC's groundbreaking Order 2000, which clearly states that Independent System Operators must be independent of all market participants. As the largest purchaser of electricity, the State of California certainly qualifies as a market participant.

In previous hearings before this subcommittee, we heard testimony from FERC's former General Counsel claiming that independence of the board was a "linchpin" of a properly functioning electricity market. Phillip Harris, the president and chief executive officer of the Pennsylvania, New Jersey, Maryland Interconnection, known as PJM, called independence of an ISO "absolutely crucial." In that hearing and in subsequent letters to FERC, I strongly criticized the makeup of the Governor's board. I continue to strongly criticize the makeup of the Governor's board, and I've called on FERC to do an operational audit of the CAISO to assess the lack of independence of the board.

On October 9, 2001, FERC commissioned an operational audit of the CAISO. The audit was completed by Vantage Consulting, Inc., and released to the public a couple weeks ago on January 25th. The audit stated that the board was not independent. Furthermore, it went on to say that the lack of independence was the "root cause of many other communication, culture and trust problems."

Lack of independence meant that in order to accommodate the Governors' long-term contracts, the CAISO requested generators with less expensive power to reduce their output. Lack of independence led to a breakdown in the relationship between the CAISO and market participants. The result is that the CAISO often had to make last-minute energy purchases from expensive out-of-state suppliers rather than from in-state sources. And finally, lack of independence continues to hinder important market reforms.

The president of Vantage Consulting is with us today to talk about how the lack of independence has damaged California's electricity market and cost consumers millions of dollars. It is clear to

me that independence must be restored to the CAISO board before we can solve the many other energy-related problems that face the State of California.

The other purpose of today's hearing is to begin a public discussion about what types of reforms are needed in California's electricity market. This is very timely for a number of reasons. At FERC, the Commission is grappling with how to create a standardized market design. The CAISO is also in the midst of contemplating market reforms. On January 8th of this year the CAISO introduced a draft Market Design 2002 proposal. I look forward to the testimonies of the FERC chairman, Mr. Patrick Wood, and CAISO president and CEO, Terry Winter, on this particular subject. I am sure that they will agree with me that getting the market design correct is the only way to provide incentives for new energy supplies and prevent the high prices, or a repeat of the high prices, we experienced in California in the immediate past.

I want to be clear that today's hearing is about the future of California's electricity markets. While I have been critical in the past of many actions taken by the Governor, I am here today to look for productive solutions. I do not want to go through what we went through in the past couple years again. I recognize that many people want to continue to play this blame game in order to avoid taking responsibility for their actions. The fact of the matter is, California is a team, Republicans and Democrats, Governors, legislators, Members of Congress, Senators, the FERC people, we are a team. We have to solve this problem.

I look forward to the testimony of the witnesses today.

[The prepared statement of Hon. Doug Ose follows:]

Chairman Doug Ose
Opening Statement
California Independent System Operator:
Governance and Design of California's Electric Market
February 22, 2002

Californians are well aware that, in 2000 and 2001, our State experienced an energy crisis that impacted every citizen in the State. Some Californians experienced blackouts. Others were asked to curtail energy use at key moments. All Californians saw huge increases in their natural gas and electricity bills. However, through the help of the Federal Energy Regulatory Commission's (FERC) market mitigation plan, a cool summer, normal precipitation in the West, and conservation efforts by individual Californians, energy prices have dropped back to expected levels.

The energy crisis seemed to disappear as quickly as it emerged, or so many people think. I can understand the public's desire to put this messy issue behind us. Energy prices are low and the lights are staying on, right? What's the problem?

In reality, California is not out of the woods yet. Not by a long shot. As the witnesses at today's hearing will tell you, the fundamental factors that exacerbated the energy crisis are still with us today. California still lacks adequate energy supply, our transmission system is old and overburdened and, most importantly, the structure of the electricity market is dysfunctional. The market suffers from inefficiencies in terms of pricing, transparency, transmission and settlement policies.

California must take action now to address these problems. If we don't, I guarantee that, once the economy revives, or we experience a hot summer or suffer another drought, California will face potential blackouts and escalating energy prices again. For a State facing budget deficits as far as the eye can see, we can ill afford another energy calamity again.

At today's hearing, we will discuss the steps that California needs to take to reform its electricity markets and ensure the public that their lights will stay on.

First and foremost in this endeavor is restoring independence to the California Independent System Operator (CAISO). On January 17, 2001, Governor Gray Davis dissolved the original board of governors at the CAISO and handpicked a new board answerable only to him. In doing so, Governor Davis violated FERC's Orders of November 1 and December 15, 2000, which called for the establishment of a new board of governors. The Davis-appointed board also violated FERC's groundbreaking Order 2000, which clearly states that Independent System Operators' (ISOs) must be independent of all market participants. As the largest purchaser of electricity, the State of California certainly qualifies as a market participant.

In previous hearings before this Subcommittee, we heard testimony from FERC's former General Counsel claiming that independence was the "linchpin" of a properly functioning

electricity market. Phillip Harris, the President & CEO of PJM Interconnection, called independence of an ISO “absolutely crucial.” In that hearing and in subsequent letters to FERC, I strongly criticized the makeup of the Governor’s board and called on FERC to do an operational audit of the CAISO to assess the lack of independence of the board.

On October 9, 2001, FERC commissioned an operational audit of the CAISO. The audit was completed by Vantage Consulting, Inc. and released to the public on January 25, 2002. The audit conclusively stated that the board was not independent. Furthermore, the audit stated that the lack of independence was the “root cause of many other communication, culture and trust problems.”

Lack of independence meant that, in order to accommodate Governor Davis’ expensive long-term contracts, the CAISO requested generators with less expensive power to reduce their output. Lack of independence led to a breakdown in the relationship between the CAISO and market participants. The result is that the CAISO often had to make last-minute energy purchases from expensive out-of-state suppliers rather than from in-state sources. And finally, lack of independence is hindering important market reforms.

The President of Vantage Consulting, Inc. is with us today to talk about how the lack of independence has damaged California’s electricity market and cost consumers millions of dollars. It is clear to me that independence must be restored to the CAISO before we can solve the many other energy-related problems that face the State of California.

The other purpose of today’s hearing is to begin a public discussion about what types of reforms are needed in California’s electricity market. This is a timely discussion for many reasons. At FERC, the Commission is grappling with how to create a standardized market design. The CAISO is also in the midst of contemplating market reforms. On January 8, 2002, the CAISO introduced a draft Market Design 2002 proposal. I look forward to the testimonies of FERC Chairman Patrick Wood and CAISO President & CEO Terry Winter on this subject. I am sure they will agree with me that getting the market design right is the only way to provide incentives for new energy supplies and prevent the high prices we experienced in California over the last two years.

I want to be clear that today’s hearing is about the future of California’s electricity market. While I have been critical, in the past, of many actions taken by the State of California, I am here today to look for productive solutions to ensure that we never face such a crisis again. I recognize that many people want to continue to play the blame game in order to avoid taking responsibility for their actions. That’s not the job of this Subcommittee and, frankly, that doesn’t help Californians one iota in terms of solving this problem.

I welcome the witnesses and look forward to their testimony.

Mr. OSE. We are going to start with two good friends, Rod Wright and Anthony Pescetti, members of the legislature, the chairman and the State legislature's vice chairman of a very important committee having to do with energy. As I said, we swear in our witnesses just as a matter of course here. I should say that we usually swear in non-elected official witnesses, so we are not going to swear the two of you in.

Anyway, I do want to welcome our witnesses today. We have with us Rod Wright, assuming I'm right, Mr. Chairman, you are the chairman of the——

Mr. WRIGHT. Utilities and Commerce, and Energy Cost and Availability of Utilities.

Mr. OSE. At the State legislature and assembly.

Mr. WRIGHT. Yes, and the subsequent, the second committee I mentioned is actually an extraordinary session committee, and when we get out of the extraordinary session that committee will go away.

Mr. OSE. All right. We need to fix the mic down here.

Mr. Pescetti, you serve as the vice chairman of the?

Mr. PES CETTI. I'm the Vice Chairman of the same two committees that Mr. Wright just mentioned.

Mr. OSE. OK.

Well, let me flip the coin up here, and we've determined that Mr. Wright is going to go first. So, we welcome you to our committee today.

STATEMENTS OF RODERICK D. WRIGHT, CHAIRMAN, CALIFORNIA STATE ASSEMBLY COMMITTEE ON UTILITIES & COMMERCE; AND ANTHONY PES CETTI, VICE CHAIRMAN, CALIFORNIA STATE ASSEMBLY COMMITTEE ON UTILITIES & COMMERCE

Mr. WRIGHT. OK, and let me apologize, Mr. Chair, I actually got the notice late and got back in town early this morning, but I think there are a couple of things I'd like to state.

Things are never as simple as folks might have them. You know, for the person, for example, who argued about the independence of the committee, the previous FERC was somewhat independent of the Governor and that didn't work well either. If it was as simple as saying who appointed the board members then we'd probably be talking about something else right now anyway.

It was that board that made the idiotic decision to have a market order where they purchase power in real time and undermined the PX. So, it clearly isn't simply a function of saying, you know, how the board is independent.

It was clear we needed to get rid of the old one because that stakeholder board had interest in terms of how power was purchased, and you had the potential for conflict of interests between those persons who were scheduling the load on the system and those people who were selling load into the system. And, the reality is, well, they said, I don't know that you are ever going to have anything that's completely independent because everybody is related in some way.

I can appreciate the gentleman from PJM discussing what they do, but California and PJM are so different in terms of the physical

composition of the distribution system that their system and ours are almost not analogous. We have, for example, almost 35–40 percent of the wires in California that belong to municipal utilities, the Department of Water and Power, SMUD and other munis, by Federal law, not FERC law, but by the IRS. You can't take their wires and merge them, which created a huge problem because some of the congestion that was described is actually a function of not being able—for a single ISO to be able to coordinate those wires.

Other folk in the West also have municipal utilities where those wires can't be blended, which is a problem that's going to have to be resolved, probably at a Federal level as well.

I think one of the other things that happens, and if you asked me, what was the principal contributor to the price spikes in California wasn't the independence or lack thereof of the ISO. That would actually go way down on the list. What I think was the principal contributor was the fact that we entered a restructured market, and we entered that market by selling off a substantial portion of the retained generation assets of the utilities, and we did that without purchase power contracts for the power that was sold. Then we neglected to get contracts on the power plants or contracts to cover that power. You could call it hedging, whatever you might call it, but the lack of those two things probably precipitated where we were because it put us into a position where we were buying too much of the net short position on a daily basis, which is no way to play.

In the PJM, for example, they sometimes have power that goes to \$1,500 or \$1,600 a megawatt hour, but it's only for 1 or 2 percent of the load so it doesn't cause the severe rate spike that we got. We were buying in the net short position somewhere in excess of 40 percent of the load. That's way too great an amount to buy on a daily basis. That, I think, contributed more than anything else.

One of the other things that I thought in the preparation of what I was able to do for this hearing is that we have some internal conflicts to resolve in California. I agree with what little part I read of your auditor's report relative to the relationship between the ISO and the PUC. If the PUC is going to regulate the rate, for example, it would be very difficult for them to also be involved in determining who gets to participate over the grid schedule. That, to me, I think would result in something of a conflict, and I think that issue would need to be resolved.

Going further, and I'm not sure what our time sequence is, but going further, one of the things that I think is going to need to be resolved, relative to the ISO, is if we're going to enter into an RTO format that would be a multi-state RTO as has been proposed by FERC, then I think that whether or not we have Governor's appointees on the ISO becomes irrelevant, because ultimately, that body would be dissolved anyway, and it won't matter who is on it. So, before we spend a lot of effort determining what the ISO composition ought to be, we are going to have to make the decision as to whether or not we are going to go to an RTO and eliminate it anyway.

I think, certainly, one of the considerations that you'd have to have as a Federal official—I'm a State official and I can be California first—you also are a Federal official, but you represent California. The issues, I think, that are of concern are that the ISO has some relationship to what happens to electricity in Nevada, and Arizona, and Washington, and other parts, we exchange power between all of those regions now in the Western Power Trading Forum, and the thing about the independence is not so much in terms of the market participants inside of California. The issue would be making sure, and this would be FERC's job, that Nevada is not disadvantaged because of the ISO situation in California, or Arizona, or Idaho, or any of the other States that participate in receiving power from that Western grid.

I think the argument that FERC made a long time ago, the fact that the California ISO actually serves to sell and import power from outside the State, means that there's got to be some level of Federal cooperation.

With respect to the Governor's contracts, and the Governor certainly doesn't need me to defend him, I would disagree with your premise about the ISO board having to acknowledge the contracts. What I mention about the contracts is, you have to take the contracts from the point where you were. What the contracts have done, is the contracts have assured that there's going to be power generated, and with the help of your motion, and that of Chairman Wood, that means that the generators are running and that mitigation worked. And I agree with you relative to the weather and the other things that were cooperating to make that work.

But, I can assure you that those contracts also serve to provide stability in the market. If, for example, you look at what has happened in the financial markets post-Enron, people who don't have contracts ain't going to build no power plants, and I say "ain't" on purpose, even though I do come from south central Los Angeles, and I'm just a poor kid from the 'hood, but, even though people may criticize the contracts today, Mr. Chair, whether it be the CalPine contract, or the Sempra contract, or the other contract, none of the power plants were currently on queue, that are not funded in the California Energy Commission program, are going to get built, because most of those plants were being built on spec. Financial markets changed dramatically post-Enron, and there will be no more spec-built plants. So, if your plant doesn't have a purchase power contract going in, power plants are going to function pretty much like building a mall. If you ain't got no anchor tenant you ain't building the mall. It is going to pretty much function like that for power plants. If you don't have a purchase power contract that assures that there's going to be a return of investment, for both operating and a reasonable return, people simply won't build the plant.

I would close, and I don't know the time, Mr. Chair, and I've got a little time I can stay. Going forward, one of the things that I think that's going to happen is that we are going to have to separate the two issues of price and supply. The reason that becomes important is that the solutions to the two problems are achieved on different roads.

If you believe that the problem is supply, then what you are going to have to do is encourage the development of new supply, and in order to do that, you are going to probably have to pay more. If your concern is that you are paying too much, then you can do price caps, but you have to understand that when you cap the price, you inhibit the development of new supply.

The California Generation Asset Base is almost like driving around in 1962 Oldsmobiles; it's 30 some odd years old, and those Oldsmobiles, unless you go to Cuba where they still drive those old General Motors cars, they are not going to continue to hold up, and you are going to end up with significant reliability problems trying to keep those old units running.

So, I think as I look at where we are, I'm afraid that there's a potential supply problem relative to the constriction of capital for building new plants. I think that we are going to end up with contracts that could very well provide for the fact that the power might cost more than the spot market. But, I think what people confuse in that, Mr. Chair, and I'll hush and let my Vice Chair talk, what people confuse about the spot market price, and the contracted price, is something like insurance. When you buy insurance you pay a premium, and if you don't have a loss, some can argue that the money you pay for a premium was wasted investment, because you didn't get a loss and you paid money, and you didn't get anything. But, you did. What you paid for was risk avoidance. The contracts that you have are going to be slightly more, because what you are buying is certainty. The equation that we're going to have to look at in California is a difficult equation of how much risk are we prepared to absorb, and how much certainty are we prepared to pay for. The more risk you absorb the cheaper the price, but the more risk you absorb if the market turns, then you get burned.

Again, we started off this energy deregulation restructuring program at 100 percent net short. If you go to Vegas and you sit at the table, I assure you that if you play long enough, you are going to lose, because the people who build casinos are not in the gambling business. They play percentages.

We have to determine what is an adequate percentage for us to play. So back to the ISO issue, if you play the percentages right I think that our position in the spot market today should be somewhere in the neighborhood of 6 percent, 5 percent. If the margin of spot market purchase drops to that level, you could stand market fluctuation in prices and it won't matter, because in order to get to that level of spot market participation all the other generating facilities will be running.

What confuses people when they look at the spot market price today, is that it's irrelevant, because most of the power has already been bought. So what you are talking about is a spot market price, and comparing that to the bogey of the contract, means that you are looking at people who have already bought. Much of the power that's in the spot market today isn't going to be purchased, because the customers, who are the major buyers, have already bought. You are talking about the residual power that's left over from power plants that no one needs to get.

So, I think before we say, whoa, we are buying over market, no you are not. If you want to find out if you are buying over market,

take all the Governor's contracts, dump them back into market. Then what you'll see is that the spot price will go back up substantially above the current market price, because suddenly you have people competing for what power is left.

I could give you a whole bunch more stuff. You don't want it at this juncture, but suffice it to say again that we are going to have to determine if we are going to go RTO or ISO. If we are going RTO, the ISO really is irrelevant, and we are just talking interim, and is it worth going through all the effort to figure that out.

We are going to have a supply problem in the near future, because there won't be enough capital to finance that. Mirant is not going to be able to build some of the plants that they talked about. CalPine is having difficulty getting money to build some of their stuff. If you void the contracts you'll bankrupt CalPine, and you'll bankrupt Sempra, and you'll lose that power as well.

It is not as simple as saying that you rescramble it. Even if you take our Southern California Edison, and PG&E, who are currently insolvent, and PG&E is in bankruptcy, and Edison is insolvent even though they had a settlement. Moody's announced last week that they ain't going to return credit worthiness to them until they are assured that the ratemaking process will prevent what happened to them before from happening again.

So, in this paradigm where we play, it's clear to me that once upon a time, as policymakers, we could make all of the decisions. Now, Moody's, Standard & Poors, Smith, Barney, Solomon Brothers, and all of the other people who provide capital are going to participate in the decision as well, so we have to make sure that the decisions we make recognizes how we deal with capital into the market.

Thank you, Mr. Chair.

Mr. OSE. Thank you, Mr. Wright.

I wish we'd had you at our hearing last April, because these were the points we were trying to make. Thank you for coming this morning.

Mr. Pescetti.

Mr. PESCETTI. Thank you, Mr. Chair, good morning, and thanks for the opportunity to address you about the future of the California ISO.

Before I talk about the ISO, I want to make some brief comments about some of the broader issues facing the energy market in California, because the shape of the ISO will be determined by broader decisions we make about our energy future. There is a great deal of nervousness in California about continuing down the path of "deregulation" that was begun in 1996, and some have suggested that instead we should return to full regulation. If we decide to return to a command-and-control market as we had before 1998, there will be little need for the ISO.

I'm not here to advocate for either position. The AB 1890 model of deregulation was so flawed as to be unworkable, and in many ways places a higher level at risk at the doorstep of ratepayers, just the opposite of what a functional deregulation system would do.

Returning to a command-and-control based system, however, would be an even worse option for California. As our history shows,

California does the worst job of any State in the Nation of regulating its energy industry. The fact that our electricity costs were 50 percent above the national average led the initial drive to deregulate, and our role as one of the first States in the Nation to take such action led to a boom in the technology sector here. Pulling the rug out from under these high-tech businesses would be economically disastrous.

Furthermore, a “cost-of-service” based system is not likely to spur the kind of investment we need to create enough new power supplies to provide our market with a healthy reserve margin. The legislature recognized this problem last year and decide to create a Power Authority to deal with it. The Power Authority was designed to go into generating business in a cost-of-service market, to buildup and maintain a publicly financed reserve margin for electricity. Fortunately, this tool is not being used. I believe the only impact would be to “crowd out” future power plants that would have been built with private dollars. Taxpayers would have become more and more involved in the electrical generation business, and I doubt that’s the direction they want to go.

Therefore, I believe a new path must be charted. We must create a market that is predominantly fueled by private investment and places the risk for those decisions on investors, not the ratepayers. But at the same time we must maintain a key role for government in ensuring stability of supply, encouraging demand-side efficiency, and stabilizing rates. In such a scheme, the State would play a strong role, would be responsible for the ensuring the adequacy of energy infrastructure, and have the tools and resources to react quickly and decisively to sudden changes in the market.

This regulatory structure would require an ISO that maintains as open a market as possible with the other Western States and with substantially similar pricing mechanisms, likely including membership in a Regional Transmission Organization.

The structure and role of the ISO is key to making any decisions about the future of our energy markets.

As all of us know, markets rely upon open and widely available methods of transporting goods from the producer to the consumer. Whether they are highways, rail, the seas, or transmission lines, those pathways must be open to all participants and sufficient for the amount of commerce needed. Californians discovered last winter that the natural gas pipelines within the State were not sufficient to meet the peak demand of electrical generators. As a result, California natural gas prices rose many times higher than in neighboring States. Likewise, on the electricity side, the San Francisco Bay Area suffered more blackouts than in other areas because of insufficient transmission, and is still at-risk.

Plentiful and accessible transmission, therefore, is fundamental to a workable electricity market.

It is important that our transmission rules allow California energy companies to compete for energy supplies outside of California. California must not isolate itself in the energy market.

I know there has been some controversy about RTOs, but I believe it is important for California to become part of a Western RTO. California utilities import up to 25 percent of peak energy

needs from Washington and other Western States. It is essential that we remain in the market for these resources.

There has been some discussion about making California “self-sufficient” for its energy needs, but to do so would be a waste, in my view. There is a unique opportunity in the Western electricity market, more so than in most other regions, to exchange resources, because the seasonal demand patterns of the Pacific Coast States are exactly the opposite of each other. California consumers benefit tremendously from the ability to purchase off-peak power from sources like the Bonneville Power Administration for their own peak use, rather than build more peaking plants or keeping old, polluting ones on-line.

There are some other issues with our market design that need to be changed. The ISO is now at work creating a new day-ahead market for spot power, which we have not had since the California Power Exchange folded last year. This will fill a huge need for consumers by further reducing the level of “panic-buying” at the ISO on the day power is needed.

It was not the legislature’s intent, or at least I don’t believe it was our intent, to have the ISO so heavily involved in energy purchases, which is part of the reason why I also think the issue of multiple qualified exchanges needs to be reexamined. In 2000, a statute was passed that banned private exchanges outside of the ISO and the Power Exchange. The idea was to keep all spot market power in one place, which in theory would produce a true reflection of the market conditions. If we had allowed outside exchanges at that time, perhaps California would still have a day-ahead market today.

Finally, I have a couple of points to make that are somewhat external to the business of the ISO, but that I think are relevant to the discussion. First, the State of California must get itself out of the power-buying business. It is now clear that the State is “over its head” in dealing with power producers in the marketplace, and for years to come, ratepayers in the PG&E and Edison territories will pay billions of dollars above the market price for spot power and long-term contracts. Improvements in the spot market will not have the impact for ratepayers that they can have as long as we are negotiating poor deals for ourselves. The investor-owned utilities are simply better equipped to protect the consumer interest in power purchasing.

The State also needs to give the utilities the tools to buy the power needed to avoid future calamities such as we saw last year. Ratepayers would not be in the financial situation they are today had the Public Utilities Commission acted to allow utilities the ability to purchase longer-term bilateral contracts for power. Utilities need the authority to make these contracts, along the guidelines set forth in Chairman Wright’s assembly bill 57.

Finally, with all of the other reforms that are needed in terms of market design, there is also need for a fundamental reworking of the State’s energy bureaucracy. I said in my introduction that California needs more uniform policy with regard to energy, and the ability to respond to crises like we saw last year.

I would propose that the way to do this is to create a State Department of Energy, a Cabinet-level agency that would be directly

answerable to the Governor. Under our present system, there is too much finger-pointing and too little accountability. There is too much regulatory uncertainty and too little coordination of action.

State government must continue to play an important role in the energy market, but it cannot do so within a regulatory structure design for yesterday's world. The State should continue its work with respect to forecasting supply and demand and evaluating the state of the market, but the same agency must have the ability to respond to those forecasts by streamlining the regulatory process or putting emergency conservation measures into place. Today, doing these things can require discussion and agreement between three, four, or five different agencies. And as we saw last year, it's often entirely ineffective.

I have introduced legislation, assembly bill 2062, to consolidate all of our various energy agencies into a department, with the exception of one—the ISO. We've left the ISO outside in the hopes that it can gain become an independent agency.

As a legislator who voted to reconstitute the ISO Board last year and take away its independence, I will say today that I believe the time has come to undo that legislation. At the time, in the midst of the energy crisis, the Governor asked the legislature to remove the stakeholder board with an appointed board. Many of us thought that this was needed to ensure the public's confidence in the operation of our grid.

Now that FERC has taken appropriate measures to restrain energy costs in the West, I do not see a need to hang on to the appointed board any longer. An independent ISO is key to reassuring market participants that a stable and less political environment exists in California.

This will not remove our ability to protect consumers. Quite the contrary, the State can and should do more for consumers by taking an active role in energy markets in the manner I mentioned earlier. If in the future the State sees the need to impose radical price control measures, it will only be because it has failed to do its part in ensuring balance in the energy markets. As I see it, energy price controls are not just a band-aid solution for market failure, they are a shield behind which politicians and pertinent agencies can hide the fact that they are not doing their job.

I hope this gives you a little bit of insight. I think California has a bright future, but we need to be able to work in a manner that's beneficial to not only the industry, but to the ratepayers as well.

That concludes my comments, Mr. Chairman.

[The prepared statement of Mr. Pescetti follows:]

Assemblyman Anthony Pescetti
Vice-Chairman, Committee on Utilities and Commerce

Testimony Before the House Committee on Government Reform
Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs
Hearing on the California Independent System Operator
February 22, 2002—Sacramento, CA

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to address you this morning about the future of the California ISO.

Before I talk about the ISO, I want to make some brief comments about some of the broader issues facing the energy market in California, because the shape of the ISO will be determined by broader decisions we make about our energy future. There is a great deal of nervousness in California about continuing down the path of “deregulation” that we began in 1996, and some have suggested that instead we should return to full regulation. If we decide to return to a command-and-control market as we had before 1998, there will be little need for the ISO.

I am not here to advocate for either position. The AB 1890 model of deregulation was so flawed as to be unworkable, and in many ways places a higher level of risk at the doorstep of ratepayers, just the opposite of what a functional deregulated system would do.

Returning to the command-and-control based system, however, would be an even worse option for California. As our history shows, California does the worst job of any state in the nation of regulating its energy industry. The fact that our electricity costs were 50% above the national average led the initial drive to deregulate, and our role as one of the first states in the nation to take such action led to a boom in the technology sector here. Pulling the rug out from under these high-tech businesses would be economically disastrous.

Furthermore, a “cost-of-service” based system is not likely to spur the kind of investment we need to create enough new power supplies to provide our market with a healthy reserve margin. The Legislature recognized this problem last year and decided to create a Power Authority to deal with it. The Power Authority was designed to go into the generating business in a cost-of-service market, to build up and maintain a publicly-financed reserve margin for electricity. Fortunately, this tool is not being used, because I believe the only impact would be to “crowd out” future power plants that would have been built with

private dollars. Taxpayers would have become more and more involved in the electrical generation business, and I doubt that's the direction they want to go.

Therefore, I believe a new path must be charted. We must create a market that is predominantly fueled by private investment and places the risk for those decisions on investors, not the ratepayers, but at the same time which maintains a key role for government in ensuring stability of supply, encouraging demand-side efficiency, and stabilizing rates. In such a scheme, the State would play a strong role, would be responsible for the ensuring the adequacy of energy infrastructure, and have the tools and resources to react quickly and decisively to sudden changes in the market.

This regulatory structure would require an ISO that maintains as open a market as possible with the other Western states and with substantially similar pricing mechanisms, likely including membership in a Regional Transmission Organization.

THE ISO'S ROLE IN MAKING THE ENERGY MARKET WORK

The structure and role of the ISO is *key* to making any decisions about the future of our energy markets.

As all of us know, markets rely upon open and widely available methods of transporting goods from the producer to the consumer. Whether it is highways, rail, the seas, or transmission lines, those pathways must be open to all participants, and sufficient for the amount of commerce needed. Californians discovered last winter that the natural gas pipelines within the State were not sufficient to meet the peak demand of electrical generators. As a result, California natural gas prices rose many times higher than in neighboring states. Likewise, on the electricity side, the San Francisco Bay Area suffered more blackouts than in other areas because of insufficient transmission, and is still at-risk.

Plentiful and accessible transmission, therefore, is fundamental to a workable electricity market.

MARKET DESIGN ISSUES

Regional Transmission Organization

It is also important that our transmission rules allow California energy companies to compete for energy supplies outside of California. California must not isolate itself in the energy market.

I know there has been some controversy about RTOs, but I believe it is important for California to become part of a Western RTO. California utilities import up to 25% of peak energy needs from Washington and other Western states. It is essential that we remain in the market for these resources.

There has been some discussion about making California "self-sufficient" for its energy needs, but to do so would be a waste in my view. There is a unique opportunity in the Western electricity market, more so than in most other regions, to exchange resources,

because the seasonal demand patterns of the Pacific Coast states are exactly the opposite of each other. California consumers benefit tremendously from the ability to purchase off-peak power from sources like the Bonneville Power Administration for their own peak use, rather than build more peaking plants or keep old, polluting ones on-line.

Spot Markets

There are some other issues with our market design that need to be changed. The ISO is now at work creating a new day-ahead market for spot power, which we have not had since the California Power Exchange folded last year. This will fill a huge need for consumers by further reducing the level of “panic-buying” at the ISO on the day power is needed.

It was not the Legislature’s intent to have the ISO so heavily involved in energy purchases, which is part of the reason why I also think the issue of multiple qualified exchanges needs to be re-examined. In 2000, a statute was passed that banned private exchanges outside of the ISO and the Power Exchange. The idea was to keep all spot market power in one place, which in theory, would produce a true reflection of the market conditions. If we had allowed outside exchanges at that time, perhaps California would still have a day-ahead market today.

Getting the State Out of the Power Business

Finally, I have a couple of points to make that are somewhat external to the business of the ISO, but that I think are relevant to this discussion. First, the State of California must get itself out of the power-buying business. It is now clear that the State is “over its head” in dealing with power producers in the marketplace, and for years to come, ratepayers in the PG&E and Edison territories will pay billions of dollars above the market price for spot power and long-term contracts. Improvements in the spot market will not have the impact for ratepayers that they can have as long as we are negotiating poor deals for ourselves. The investor-owned utilities are simply better equipped to protect the consumer interest in power purchasing.

The State also needs to give the utilities the tools to buy the power needed to avoid future calamities such as we saw last year. Ratepayers would not be in the financial situation they are today had the Public Utilities Commission acted to allow utilities the ability to purchase longer-term bilateral contracts for power. Utilities need the authority to make these contracts, along the guidelines set forth in Chairman Wright’s Assembly Bill 57.

Create a State Department of Energy

Finally, with all of the other reforms that are needed in terms of market design, there is also a need for a fundamental re-working of the State’s energy bureaucracy. I said in my introduction that California needs more uniform policy with regard to energy, and the ability to respond to crises like we saw last year.

I would propose that the way to do this is to create a state Department of Energy, a Cabinet-level agency that would be directly answerable to the Governor. Under our

present system, there is too much finger-pointing and too little accountability. There is too much regulatory uncertainty and too little coordination of action.

State government must continue to play an important role in the energy market, but it cannot do so within a regulatory structure designed for yesterday's world. The State should continue its work with respect to forecasting supply and demand, evaluating the state of the market, but the same agency must have the ability to respond to those forecasts by streamlining the regulatory process, or putting emergency conservation measures into place. Today, doing these things can require discussion and agreement between three, four, or five different agencies. And as we saw last year, it's often entirely ineffective.

I have introduced legislation, Assembly Bill 2062, to consolidate all of our various energy agencies into a Department, with the exception of one—the ISO. We've left the ISO outside in the hopes that it can again become an independent agency.

ISO Independence

As a legislator who voted to reconstitute the ISO Board last year and take away its independence, I will say today that I believe the time has come to undo that legislation. At the time, in the midst of the energy crisis, the Governor asked the Legislature to remove the stakeholder board with an appointed board. Many of us thought that this was needed to ensure the public's confidence in the operation of our grid.

Now that FERC has taken appropriate measures to restrain energy costs in the West, I do not see a need to hang on to the appointed board any longer. An independent ISO is key to reassuring market participants that a stable and less political environment exists in California.

This will not remove our ability to protect consumers. Quite the contrary, the State can and should do more for consumers by taking an active role in energy markets in the manner I mentioned earlier. If in the future, the State sees the need to impose radical price control measures, it will only be because it has failed to do its part in ensuring balance in the energy markets. As I see it, energy price controls are not just a band-aid solution for market failure, they are a shield behind which politicians and pertinent agencies can hide the fact that they are not doing their job.

Thank you, Mr. Chairman, for this time. I am available for any questions that you or Members of the Committee may have.

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Mr. OSE. Thank you. Mr. Pescetti.

I want to make sure I understand; I was following your testimony here, I have a copy of it, and at the top of the fourth page you used the word "without" but your written statement says "within." You said, ". . . but it cannot do so without a regulatory structure," and your written remarks are, ". . . but it cannot do so within a regulatory structure . . ."

Mr. PESCETTI. You know what, I kind of missed my page here.

Mr. OSE. I think you meant within.

Mr. PESCETTI. I probably did, if that's what the written remarks say.

Mr. OSE. We are going to go with the written ones.

Mr. PESCETTI. Yes.

Mr. OSE. We'll correct the verbal statement—

Mr. PESCETTI. Please.

Mr. OSE [continuing]. To comply with the written statement.

Mr. PESCETTI. Thank you.

Mr. OSE. All right.

Well, thank you both for coming today. I do want to look prospectively in terms of where we are going.

Chairman Wright, you had mentioned maintenance standards in your comments earlier, and one of the problems that we experienced in the immediate past were unplanned outages by generators. It appears, or at least there has been testimony given, that the generators contend they bought old plants, that they proceeded to run them hard, if you will, and that as a result they experience, subsequent to that, higher than average outages. Others have testified that the outages were staged in order to raise prices.

CAISO has been working on maintenance standards for all generating plants in the State, and yet they've delayed filing their proposal with FERC in order to allow the PUC to have some input. It's my understanding that the PUC wants the legislature to pass 39XX, which would give the PUC authority to do maintenance checks on all present and future generators who supply energy into California, including those outside the State.

Do you have an opinion on that bill?

Mr. WRIGHT. Well, I don't know that we can give the PUC the authority to inspect anything outside the State. Some of us question how good a job they are going to do inside the State, so I certainly wouldn't want to send them outside.

The issue that tied up 39 wasn't inspecting plants; I mean, the PUC did over 800 inspections so there's not a question as to whether or not they can inspect. I forget which of the Federal laws it was, but wholesale generators in California enjoy an exemption, and it's that exemption that allows them to even build power plants in the first place on a private basis, and that was done long before there was a ever a restructuring or deregulation movement. That was how you were able to get plants, because the California Constitution specifies that if you generate electricity you are a utility. As a utility, you are going to be structured substantially differently.

The law that was drafted by the PUC would have removed the EWG, or Exempt Wholesale Generator, provision, under current California law. That dog won't punt in the legislature, and so what

we had to do was say to them that we are not going to create a situation where we attempt to regulate a private wholesale generator as a utility, because what that would do is immediately dry up all of the capital that would have gone to the people who were trying to do that.

What we are trying to do is grant to the PUC, in statute, without removing the EWG provision, the ability to inspect plants, but we have to make sure that we do another thing as well. The other thing that has to be done is to make sure that, for example, if the PUC specifies maintenance standards that differ from those of the manufacturer of the equipment, and the equipment breaks down who assumes liability? I mean, there are a number of things that need to be done there to make sure that's accomplished.

You also have the issue of scheduling, and in some instances, for example, last year there was this great furor about the guy at Duke said that during a middle of a shortage that Duke shut its plant down. Well, what he didn't know—and it becomes one of the reasons, you know, I guess in the Chicken Little theory about the sky falling, the fact that an apple hits you up side the head doesn't mean that the sky is falling, it just means that an apple fell—this particular plant was shut down because the ISO needed to do that in order to relieve transmission congestion.

And so, if you were looking and saying that whoa, you know, we are in shortages today and this plant is shutting down. If you didn't know the entire picture then you would provide an erroneous thing. I mean, the newspaper never—

Mr. OSE. So, they decked the plant, they decrementally had the plant go down to take the power off the line, to ease the congestion.

Mr. WRIGHT. Right, see, because if you don't do that then you'll blow up the whole system. And again, the problem is that the newspapers were so quick to jump on the testimony of this idiot that they never were able to get back to the fact that it was a managed outage. No, it wasn't planned, but it had to be scheduled so that you didn't crash the entire system.

So, I mean, as you began the question about maintenance, 39 is something that we're going to work with. We are still doing that. In its initial form, the legislature was not prepared to grant to the PUC the ability to do that.

And, let me amplify that in the 800 inspections that they did, they did not find one incidence of outage that they were prepared to file a grievance against. The one incident that people discussed was one where a plant in southern California that was fined by FERC, but the issue there did not have to do with withholding, the issue had to do with the fact that one of their units had an RMR contract, the other unit did not have an RMR contract.

AES brought up the plant first that did not have the contract; FERC ruled, and I think properly, that they should have brought up the RMR contract plant first, and fine them the difference. That's been reported as catching someone withholding. It's not true, and so, I mean, the difficulty in all of this is that people take a little bit of truth and push it in a way that isn't true.

We'll fix 39 to make sure that the PUC has the ability to inspect plants, without taking away the Exempt Wholesale Generator,

without having the PUC try to determine maintenance standards for which they have no qualifications to do.

Mr. OSE. I think that's the key point. I think you are right on the point there in terms of a manufacturer of, let's say, somebody that makes turbines, says you have to maintain this turbine in such and such a manner, we've got to make sure that these maintenance standards that might be adopted align themselves with the manufacturer's experience on them. So, that's what I'm trying to get at, is why wouldn't we just adopt—maybe this is too simple, but why wouldn't we just adopt the manufacturer's standards for maintenance and tailor those standards to the specific equipment that's in a plant?

Mr. WRIGHT. Because that makes too much sense.

Mr. OSE. OK.

Mr. WRIGHT. See, part of the problem, I think, that happened as well, in the year prior to the crisis, Mr. Chair, the ISO asked a number of the people who were running plants to exceed their manufacturer's recommendations.

Now again, we are talking about old plants, and so that meant that by missing standards, or deferring maintenance that you should have done, you are going to have unplanned outages, because now you are really going to have to do it for fear of critically damaging your equipment.

I think where again we have to be particularly careful, is that in California there's another layer they'd I'd like to put on top. For example, in Pittsburg, California, not very far from me, Mirant operates a plant that they bought from Pacific Gas & Electric. They ran so many hours in the year 2000 that when we got into the middle of the crisis, the Air Board in Contra Costa County said, "Oh, you can't run anymore because you've already exceeded the amount of time that you can run."

And, I would remind you, Mr. Chair, that all of the plants that were purchased actually exceeded the output when they were operated by the utility by, in some cases, as much as 80 percent. So, it's not a question where you've got less power out of them.

Now, you could shape that in a way where you could still manipulate and produce more, but I think it would be a little bit disingenuous to suggest that people were simply withholding so that they could drive up the price. If you go back and look at the incident in totality, it doesn't mean that you couldn't do it, and it doesn't mean that it didn't happen. That needs to be investigated, whether more power was produced. But in some cases you had plants go off line because air boards were directing. And, that plant in Pittsburg that I just told you about. I'm not telling you what I heard, and I'm not telling you what somebody else told me. I went to the plant and saw them take down a boiler on the largest power plant in California. They had to take down the boilers on a couple systems because the air board, not the ISO or the PUC, ordered that be done.

So, you know, the Governor would later on realize that he had a problem, because the air board could also come in and provide fines.

During the energy crisis as well, in Los Angeles we fired up an old power plant and people said that the DWP gouged when we

did. What people didn't take into account is that DWP paid several million dollars to the SCAQMD for fines to run the plant. When you pay those fines, that cost is going to be incorporated into the cost of the plant.

That plant that I described to you that Williams runs, or AES and Williams run, they have a totaling agreement with Williams. I think in 1998 and 1999 the air emissions cost exceeded the cost of the fuel. In most places in the country, the cost of the fuel is the largest single operating expense of a plant, except in those plants in southern California where the emissions credit exceeds the cost of the fuel.

So, I'm just saying, and it goes back to my original statement, Mr. Chair, if price is the issue that we're concerned about, there are a number of things that we can do to mitigate price.

Mr. Pescetti mentioned, for example, that the prices were higher in California. The Federal Government helped with that. When they did PURPA, and they dictated that utilities had to buy at the short run of what it cost power from somebody else who built the plant, and they based it on the cost of a nuclear plant, where the cost of the plant was front loaded, in some instances Edison, and PG&E and Semptra had to take 3 cent plants off line to buy power for 8 and 9 cents. But again, at the time somebody said that gas is going to be—oil is going to be \$100 a barrel and it will be scarce. Well, it ain't \$100 a barrel. We guessed wrong.

But now, even if you go back and look at the contract that people criticized the Governor for, they are a cent and a half less than the QF contract that utilities are still obligated to pay for.

So, it's not as simple as saying, well, they screwed up. There's enough blame to go around where everybody comes away from this with a little bit of mud on their shoes.

Mr. OSE. Your point on the maintenance standards is that we ought to listen to the manufacturers, they tend to know what their equipment can do.

Mr. WRIGHT. And they provide warranties, and if you don't follow the warranties what happens is, when it blows up you don't get any money back. It's kind of like you buy a nice new car and they give you a maintenance schedule, if you don't keep it you void the warranty.

Mr. OSE. I do take care of my 1989 pick-up.

Mr. Pescetti, on SB 39XX, do you have any thoughts that we could take into consideration?

Mr. PESCETTI. I like keeping things, as well, Mr. Chair, very simple. I think we should just kill the bill. I mean, we attempted to kill it last year, personally, I don't think you can make a bad bill any better. So, I would like to see 39X die in the assembly.

Mr. Wright and I worked very hard the last night to stop the bill from getting out, and personally, I think that's the best thing that would happen for Californians and our energy market, is to kill 39X.

Mr. OSE. Do these maintenance standards need to be adopted by regulatory process, is that what you are saying?

Mr. PESCETTI. No, what I'm saying, as you and, I think, Mr. Wright alluded to earlier, is that there are manufacturing standards for maintenance, that's what we should adopt. We don't need

any regulatory agency going in and saying we should change that process.

Mr. OSE. Is it your opinion that PUC's involvement in this is superfluous?

Mr. PESCEtti. Yes. Personally, I think that the PUC would like to have its hands in more parts of the energy market than it needs. I don't think we need to increase the scope of the Public Utilities Commission.

Mr. OSE. Mr. Wright, correct me if I'm wrong; if I understand your point, it is that if someone buys one of these pieces of equipment and puts them in their plant and runs it, and runs it in such a way as to void the warranty—I mean, they are not going to do that because it's not in their financial interest, if they screwed it up they wouldn't be able to get recovery.

Mr. WRIGHT. Right.

Mr. OSE. So, you think, if you will, the manufacturer's relationship with the buyer is sufficient to handle this issue?

Mr. WRIGHT. Well, I think a couple of things. 39 really wasn't drafted in conjunction with, but it's now kind of linked with 28, which is an Assembly bill, that is on the Governor's desk.

Mr. Pescetti is right. In its current form, the bill should and will die. If we are able to make 39 work, it needs to be clear that the ISO, and not the PUC, would be involved in the scheduling of the power plants when they schedule their maintenance.

In some instances, for example, the operator, or the manufacturer, will say you have to shut down this equipment for maintenance over a period of hours. It becomes an ISO function to determine which plant in which region, relative to congestion management, needs to go down for scheduled maintenance at a given time.

And so, in some instances it might be that you say to the guy in Pittsburgh, we are going to take you down in April so that when we take someone else down, you can't have them all down at the same time. So, those maintenance plans, within the manufacturer's guidelines, also have to be scheduled for the reliability of the grid, so that everybody doesn't go down at one time.

One of the problems that did occur before—and this was a shortcoming of the ISO in part, but again, ISO had the problem of also keeping the lights on—was that, because a lot of people blew maintenance schedules earlier on, it meant that as you got to the crunch time, a lot of people had to go down because they were now at the critical point of losing the equipment.

So, I think that the ISO needs to do the scheduling of maintenance around the manufacturer's schedule, and in consideration of the congestion management requirements of the grid. Then the PUC role would be to determine if the plant was not functioning under the prescribed guideline set forth between the ISO, the generator, the PGA that they had with FERC, the generator agreement that they had with FERC. The PUC's role, in my view, should be much as happens with the PUC, say, in the telephone business. They become the enforcement arm, the eyes of FERC on the ground. Because in the event that there was withholding, you do need somebody to be able to serve as the cop, so to speak, to say that somebody is gaming the system.

But, I submit to you that the more efficient way to achieve that would be by contract, because contracts are much easier to enforce than trying to figure out at 2 a.m., whether or not a plant is off line. It becomes a much more laborious task to figure that out. A contract is much easier to manage, which is why I get back to my earlier discussion. If you had contracts for most of the power, and your spot position is de minimus, then you are not trying to play cops and robbers in the middle of the night to figure out who is running the plant and who is not.

Mr. OSE. You are both in agreement that these maintenance standards are more suited to the ISO then.

Mr. WRIGHT. Yes.

Mr. PES CETTI. Yes.

Mr. OSE. OK.

Now, the second subject I want to talk to you about—and I appreciate your compliment earlier, Mr. Chairman—is the market mitigation plan that's in effect right now that FERC adopted.

Mr. WRIGHT. At your urging, Mr. Chair. Thank you.

Mr. OSE. I'm sorry?

Mr. WRIGHT. That was at your urging, I understand. Thank you for your work.

Mr. OSE. Is it working? Is the mitigation plan working, in terms of bringing power at an affordable price, because if it's not we need to change it.

Mr. WRIGHT. Well, I think it does. I mean, what it does is assure that the plants are going to run. And it assures that the price is going to be within a certain range.

Where you have to be careful with price caps is that, often times the cap becomes the floor if you are not careful. We saw that, when there were price caps before, where suddenly you say, oh, OK, I can charge \$2.50, we'll just make it \$2.50, since that's what I'm able to get.

What I think we need to have going forward is, if, for example, we've got contracts for a substantial amount of power, so we are assured that plants are going to run and the people who own the plants are assured that they are going to get paid, then I think we would be able to begin retreating from the mitigation measures, because we've got power purchased and the plants are going to run.

But contrary to what people may have said, that the DWR bought too much power, the shape of what they bought doesn't really conform to the load profile of the State. So, we are going to have situations where we are going to have peak load times, we are going to have to go out and buy power anyway. We are going to have to, say, on Sunday afternoons, end up having to sell power at a substantial loss, or, in some cases, give it away. That was a function, I think, of not buying wisely, not a function of having paid too much.

So, yeah, I think that had we not had that, and if we didn't get the winter, and if you didn't get other things—the Fortnightly, a utilities magazine, has a great article that talks about what caused what. I think it was a combination of—I think most experts would agree—the price mitigation, the weather cooperating, and we spent a lot of money publicizing the need for conservation. Californians cooperated with that. All of those things, taken together, I think

contributed to that. We don't want to be in the position, again, of depending on good weather, and depending on things we can't manage, which is why contractual relationships are the best way to go. It's kind of why a lot of folk get married and quit dating.

Mr. OSE. Remind me never to match wits with you.

Mr. Pescetti.

Mr. PESCETTI. Mr. Chair, I'd agree.

I think the market mitigating plan helped us get several things in order to get to the position where we are, a little bit more stable as far as price goes, so I'd agree with Mr. Wright's comments.

I think also we can't undermine the benefits that we've had, and all Californians have made, with the energy conservation, because with a plan and with conservation and with good fortune and with the weather, I think everything worked out well. So, I think that was a good first step for us, and I also want to thank the Chair for his help.

Mr. OSE. Now, the FERC's order expires on September 30th. One of the purposes of today's hearing is to take input about what we do from there. I mean, is this order a long-term solution? I hear you saying we need to tweak it to a certain extent.

Mr. PESCETTI. I agree. I think there needs to be some tweaking, and I think we have between now and before the order is up at the end of the September to take a look at areas that we can improve and some areas that we may want to scale back, take a look at where California has gone.

I think the contracts have helped also with some stability. I think maybe we may have committed too much in 2003, especially based on where we've seen the demand go, but I would hope that between now and the end of September we'll have an opportunity to look at ways to improve the plan, fine tune it, and move forward on those areas that are beneficial to Californians.

Mr. OSE. Mr. Chairman, one of the things you mentioned was the fact that we've been buying, or at least we were buying, 40 percent of our net short in the daily market, and you hinted at the percent of the portfolio, if you will, that should be acquired in the spot market, as opposed to what is being acquired in the spot market.

The direct implication of that is we need to give these power generators and power suppliers the opportunity to forward their contract. Do the power suppliers have the ability right now to forward their contract under PUC guideline?

Mr. WRIGHT. Well, they do, Mr. Chair, but they do so at their own peril. Mr. Pescetti mentioned AB 57, which I authored and it went through the assembly, and God forbid that we inject politics into the policy process, but 57 is now on the Senate side awaiting approval.

What 57 did is specify in statute that there would be a new framework for how the review of the prudence of a plan is done for the purchase of electricity.

When I say the purchase, I mean what could happen now. For example, let's say that PG&E bought—well, this would be the good old days when PG&E bought, since in bankruptcy they can't buy nothing, but let's say that PG&E bought a contract for 6 cents. If the PUC determined that they should have only paid 4 cents, then

what the PUC could do is grant them only 4 cents in rate dollars, which means that PG&E would eat the 2 cents.

Given that risk, the company won't buy anything that the PUC won't approve in advance. Since the PUC was not going to approve contracts in advance, and there still is no procedure at the PUC to approve contracts in advance, then the companies are reluctant, and you can't blame them.

Mr. OSE. Wait a minute. We had a hearing in Sacramento last April, where I took testimony under oath from the person who runs the PUC, Ms. Lynch, that the PUC had, in fact, adopted Safe Harbor provisions for forward contracting. Is that not the case?

Mr. WRIGHT. No. They began working on a 57 framework after 57 was introduced, but that framework is not yet completed, and it is more important now that it be by statute than by regulation, because what the financial markets have come to realize is that the PUC can change its mind on a dime, but they can't change statute on a dime.

So, it is the ability to purchase forward contracts. In some respects, the PUC has granted minimal ability for them to do that, but there is no standard procedure in place in California today for a utility to go out and buy power without necessarily facing a subsequent prudence review.

Mr. OSE. No safe harbor provision.

Mr. WRIGHT. Negative, not that exists right now.

They are beginning, at the PUC as a regulatory process, to look at adopting what was done in 57, but that does not yet exist to my knowledge.

So, I was with some utility people yesterday who were urging me to move 57, particularly, with a San Diego company, because they've got some power contracts that they want to begin negotiating, and they'll need to do that in January. They need the protection of 57. San Diego was the San Diego Gas & Electric/Sempra combination. They need the safe harbor provisions in 57 to give them a comfort level with their bankers, to be able to go out and play.

So, it is not currently in effect, that they are able to have a safe harbor, as you term it, to go out and make purchase power contracts.

Mr. OSE. Do you share that opinion, Mr. Pescetti?

Mr. PES CETTI. I do.

Mr. OSE. This is my last question. I'd be happy to entertain what further thoughts you might have, but, Mr. Wright, you had indicated that the percent of the portfolio that should be acquired in the spot market should be somewhere in the 5 to 6 percentage, and then you would end up melding that with what comes off your base generation and what have you, your long-term contracts.

It is my understanding that we've been buying all in net short, at least until recent times, in the spot market, but if I understand PUC guidelines for the past couple years it was that they wanted a threshold of around 20 percent purchased in the spot market. You have your native generation, and they didn't want any generator having more than about 80 percent of their generation within their own control. So, you'd be forced to go out and buy around 20

percent of your demand, either in the forward or in the daily market.

Am I correct in that understanding?

Mr. WRIGHT. OK. Well, the current profile in California, ball park, is that about 25–28 percent is retained generation asset by the utility. About 30 some-odd percent is QF or contracted power, and the balance was what we termed net short.

The problem is that the net short, as a percentage, fluctuates given the demand. So, the amount you have as retained generation is a fixed amount of power. The amount that's contracted is a fixed amount. Now, what you have left as a percentage is going to vary with how much the demand is. If the demand goes up, then that means your net short percentage can go from about 30 some odd percent to maybe 50 percent, depending on what the demand is for a given day.

The PUC, pre Ms. Lynch, said that because the spot market was so good, that they wanted all of the purchases to be there, because the consumer was getting the advantage of the low price of the spot market at the time.

Mr. OSE. That's the 100 percent.

Mr. WRIGHT. Yeah.

Mr. OSE. OK.

Mr. WRIGHT. But, remember that when we first embarked on the deregulation effort the surplus of power in the State was also somewhere in the neighborhood of about 20 percent on an average day. The demand in California began to grow subsequent to 1996, and that ate up all of that reserve. As the reserve was eaten up, that meant that the prices were going to go up because now the commodity became scarcer. This is Economics 101. If the supply goes down and the demand goes up, then the price goes up as well.

Mr. OSE. Actually, it's an undergraduate, it's a lower graduate course, it's Economics 1.

Mr. WRIGHT. Yes.

Mr. OSE. Not 101.

Mr. WRIGHT. This is way, way down, and, you know what? That still works in this market. Which is why what I mentioned earlier, the contract in effect with a merchant operator serves as an insurance policy. What that insures is that if you buy the contract, that operator is assured that he's going to get paid. He doesn't have to go out and worry every day whether or not somebody is going to buy it from him.

You are assured of getting power at a certain price. It goes back to what I told you, though, about insurance policies. You pay a premium to get that certainty. If the price goes down on the other end, you can't look and say, oh, my God, the spot market is loaded. Because the problem is that, if it had gone up, then you would have paid the higher price.

And, what you can't try to do is say, "I want to get the lower price when it's low, but if the price goes back up, I want FERC or somebody to come in and rescue me from my own mistake."

We've got to determine, and why I say the contract becomes so important, that the lowest price is not necessarily the best price. In dominoes, in my neighborhood, they say all money ain't good money. The fact that you got the low price today doesn't mean that

you are going to get it tomorrow. Since electricity is something for health and safety that you have to have, you can't ultimately get the lowest price because that exposes you, as we now know, to the highest price.

So, let's say that you take the price of, say, 5 or 6 cents, 6.5 as the current, I think, as the current contracts are. There's a whole lot more risk for you south of 6.9 cents, than north of 6.9 cents. So, if you chase that 1 or 2 cents that you think you'll get by playing the spot market, then you can't complain if it goes to 10 or 11 cents. The reason that I'd leave some purchase in the spot market is because you have elasticity in the market. A plant may shut down. Something may happen that truncates the demand on a given day. But the reason you'd like to have the ability to reduce what you buy, so that you are not as wasteful, so that, at the end day, you can reduce your exposure to risk by ensuring that you have power delivered to you on a reliable basis.

Mr. OSE. That's the forward contract.

Mr. WRIGHT. And, I want to be careful that we don't say that they are all long-term. You may have some contracts that are 6 months and some may be 2 or 3 years.

Mr. OSE. Right.

Mr. WRIGHT. But, you may have a contract like the one you have with CalPine that's a multiple-year contract, because it serves as a basis for development. So, the contract portfolio will actually be a whole lot of little contracts that cover periods of time.

Mr. PESCEtti. Mr. Chair, you have to have some flexibility, you have to have, you know, 10 percent or less on the spot market, not only if a plant goes down, but also the demand shifts throughout the course of the day.

You know, I spent several years, as you know, on the SMUD board, and we always loved to get businesses to run off of peak, especially at night, because electricity was floating anyway. So, you need to have that flexibility and, you know, 5 or 6 percent is probably the ideal amount.

In regards to the contracts, I think those ended up being advantages for Californians. I think the fact that we have some stability in the price, we have some that we can buy on the spot market, helps us as well. I think that also helped us with some reliability, therefore, the lights haven't been off for a while. So, I think those are all benefits.

Mr. OSE. I want to thank the two of you for coming today, I appreciate you taking the time out of your day to come over.

Mr. PESCEtti. Thank you.

Mr. OSE. It's been very educational for me. I appreciate you coming in.

Mr. WRIGHT. Thank you.

Mr. PESCEtti. Thank you, Mr. Chair.

Mr. OSE. We're going to take a short break here and then the second panel comprising Patrick Wood, Terry Winter, Richard Drom, James Feider, Jan Smutny-Jones and Walter Drabinski will be here with us.

[Recess.]

Mr. OSE. OK, we are still looking for Mr. Drom and Mr. Drabinski, are they here yet? We're going to give them a minute.

Tell you what, we're going to proceed, I'm going to have to swear all of you in; when they come in I'll swear them in.

Gentlemen, would you rise, please, and raise your right hands?
[Witnesses sworn.]

Mr. OSE. Let the record show that these four answered in the affirmative, that would be Mr. Wood, Mr. Winter, Mr. Feider and Mr. Smutny-Jones.

We'll pick up Mr. Drom and Mr. Drabinski when they come in.

Gentlemen, I know that some of you have a 12 o'clock schedule constraint. We have your testimony. If you can summarize in 5 minutes each it would help us get straight to some direct interaction.

Patrick Wood, the chairman of FERC, welcome.

STATEMENTS OF PATRICK WOOD III, CHAIRMAN, FEDERAL ENERGY REGULATORY COMMISSION; TERRY WINTER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, CALIFORNIA INDEPENDENT SYSTEMS OPERATOR; RICHARD A. DROM, VICE PRESIDENT, GENERAL COUNSEL, PJM INTERCONNECTION, L.L.C.; JAMES C. FEIDER, PRESIDENT, CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION; JAN SMUTNY-JONES, EXECUTIVE DIRECTOR, INDEPENDENT ENERGY PRODUCERS; AND WALTER P. DRABINSKI, PRESIDENT, VANTAGE CONSULTING, INC.

Mr. WOOD. Glad to be here, Mr. Chairman.

The last time that I had the pleasure to visit Sacramento at the time I was newly appointed to the Commission, as was Commissioner Brownell, we had the pleasure to meet the California Energy Commission with a group of experts talking about the sufficiency of the infrastructure in the California market, and it's fitting that my second time attending Sacramento we are talking about the balanced market rule. Those two aspects of the world, sufficiency of the energy infrastructure and the presence of balanced market rules to govern the trade back and forth on that infrastructure, are really the two prerequisites for a healthy and competitive market to work, to deliver to benefits to customers.

I am pleased that your focus, as well as the focus of a lot of the key parties here in California, is on getting the balanced market rules in place. I think that is such a critical part of getting this part of of the Nation returned back to economic health on the energy front, that we really do need to focus on.

The FERC, for its part, is looking at balanced market rules on a national scale. We have had a number of instances, and I'm pleased to see Mr. Drom here from PJM being a good example of one, but certainly there are others, of instances of energy markets that are healthy, that have worked, that do survive stress, that were designed and are malleable enough to improve as they discover flaws in their mechanisms, and I'd like to hope that we can get California to that same level, as well as the rest of the West.

It's important to remember that California, while it's the dominant player in the West, is part of a bigger electric grid. The laws of physics dictate where power goes, not the law of the man, and those laws tend to make power spill over back and forth between Oregon, and Nevada, and Arizona, and even as far away as British

Columbia, back into New Mexico as well. So, that interconnectivity of the California Region and, I think, the gentlemen on the first panel did speak to that, acknowledging that interdependence is an important part of the mix here. So, California's solution has got to include the other players in the Region, and certainly FERC is mindful of that, as we move forward in talking about market designs that should work for the whole country.

There is a real urgency, I think, at this point to complete the transition. This began in 1992, when Congress laid out the Energy Policy Act and said, we think that competition at the wholesale level, which is between the wholesale players, is a good thing for America and we ought to move forward toward that. That's been 10 years, and with probably the exception of the Northeast, from maybe D.C. toward Maine, it is really only a promise, not really an actuality. And so, we'd like to see that promise be expanded across the country.

This is very separate from the local decision by a legislature, such as here in Sacramento, to decide to open its retail market, that is in my mind, and always has been, a State decision, and it's very separate, it's a political decision as to whether customers ought to be allowed to a government selected utility or be able to pick their own supplier. That's a political decision, but what we have been about, and always were about, and what I think the discussions that you have welcomed here are about, are the economic benefits of having a market, and having a market work well.

We are committed to that at FERC. We are committed to the institutions, such as the one that Mr. Winter heads and the others in the country, that those be good regional leaders for making these markets work on a regional basis. It's not necessarily a Federal issue, but often in cases it's bigger than a single State issue, and that's the difficulty here, we don't have a government of the region. There's a Federal Government in the Nation's Capital, and there's a local government here in Sacramento, but there's not one that kind of represents where the electric markets really are, which is somewhere in between.

So, we are doing our best to try to create institutions that can make that work and work well for the benefit of customers, and I trust that with discussions like today's, and the collaboration that can lead from that, among all the parties here in California and in the broader West, we can get to a market that is viable for the long haul.

I look forward to any of your questions.

[The prepared statement of Mr. Wood follows:]

**Summary of Testimony of
Pat Wood, III
Chairman, Federal Energy Regulatory Commission
Before the Subcommittee on Energy Policy,
Natural Resources and Regulatory Affairs
of the Committee on Government Reform
February 22, 2002**

As the electric utility industry continues to move toward the goal of a competitive wholesale electricity market, an efficient market characterized by balanced market rules and sufficient infrastructure is absolutely necessary. A solid market design can help to reduce price volatility and reduce the need for after-the-fact fixes.

A recent operational audit of the California Independent System Operator (ISO) recommended specific actions that the Commission and the ISO can take – separately or in concert – to improve the ISO's performance. Interested parties are commenting on this audit presently.

While spot prices for electricity in California and throughout the West have declined significantly in recent months, it is important to understand that certain market design flaws still remain. Commission actions have helped to improve the way the market functions, but they have not completed the restructuring that will be necessary to make the markets operate efficiently. A new market design proposal from the California ISO staff addresses some issues that must be resolved to ensure the efficient performance of wholesale markets in California.

The need for improvements in market design exists nationwide, not just in California. Market design issues are one of the Commission's highest priorities this year, and to this end we have begun a rulemaking proceeding that will standardize particular aspects of electricity market design and structure. Our goal is to create a seamless, national market for wholesale electricity, and to fulfill the vision of competitive wholesale markets that was endorsed in the Energy Policy Act of 1992.

**Testimony of
Pat Wood, III
Chairman, Federal Energy Regulatory Commission
Before the Subcommittee on Energy Policy,
Natural Resources and Regulatory Affairs
of the Committee on Government Reform
February 22, 2002**

I. Introduction

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to speak today regarding the Commission's wholesale electricity market design goals for California and for the nation. Market design is among the Commission's highest priorities this year. As the electric utility industry continues to move toward the goal of a competitive wholesale electricity market endorsed in the Energy Policy Act of 1992, an efficient market characterized by balanced market rules and sufficient infrastructure is absolutely necessary.

Today I will describe the Commission-sponsored audit of the California Independent System Operator, or ISO, which is currently undergoing comment by interested parties.

I will also address certain aspects of the design of California's wholesale electricity markets. Finally, I will provide an overview of the Commission's current rulemaking initiative, which will propose greater standardization of wholesale electricity markets throughout the nation, thereby reducing costs that ultimate customers must pay.

While spot prices for electricity in California and the West have declined significantly, certain market design flaws still remain in California and much work

remains to be done. The recent ISO audit report and the comments currently being solicited will assist the Commission in moving forward to address these important issues. In addition, the Commission's generic initiative on standard market design will improve wholesale energy markets by implementing sound, tested market rules across the nation, including California, to increase competition and to allow energy transactions to take place efficiently across and between wide regions. This rulemaking initiative firmly embraces one of the most important lessons learned from the California energy crisis: A solid market design can help to prevent price volatility and reduce the need for after-the-fact fixes.

California's market design and the independence of the ISO are raised in numerous contested proceedings pending before the Commission, and I cannot discuss today the merits of any specific issues pending before the Commission. I therefore will focus my comments on informing the Subcommittee about the recent ISO audit report and the ISO market design proposals, and I will also discuss the Commission's progress in moving forward on generic issues related to market design.

II. Independence of the California ISO

Last fall, the Commission hired an independent consultant to conduct an operational audit of the ISO. We received the results of the audit from Vantage Consulting on January 25, 2002.

The purpose of the report was to have an independent entity identify any problems in the ISO's structure and operations and appropriate steps for prospective improvements

to California markets, including improvements that will help the ISO enhance its effectiveness. The report recommended 19 specific actions that the ISO and the Commission can take – jointly or separately – to improve the ISO's performance. These were discussed directly by Mr. Drabinski in his testimony.

Notice of the Operational Audit was published in the Federal Register on January 31, 2002, in Docket No. PA02-1, and the notice invited written comments on the audit report's list of specific recommendations. Commenters were asked to state which recommendations, if any, they believe should be adopted and to prioritize those recommendations. They were also asked to discuss an appropriate time frame for implementation of the recommendations that they believe should be adopted. We received the ISO's comments on the Audit on February 14, 2002. All other comments are due on March 1, 2002.

This matter is pending before the Commission. Thus, I cannot comment further on the audit or action that the Commission may take pursuant to its recommendations.

III. California Market Design

In an order issued on November 1, 2000, the Commission identified numerous flaws in the California wholesale electricity markets. The order stated that short-term market flaws included:

- the requirement that investor-owned utilities sell all their energy into, and buy all their energy from, the California Power Exchange;
- chronic underscheduling of load and generation within the ISO; and

- a lack of standard procedures to facilitate the interconnection of new generation.

For the long term, we proposed the consideration of:

- improved market rules respecting reserve requirements;
- improved market power mitigation measures;
- a better system of congestion management;
- mechanisms to elicit greater demand response; and
- development of a broader, regional transmission management organization, or RTO.

The Commission followed up these statements in a December 15, 2000 Order that described in further detail the problems with California's electricity market design. The Commission directed measures to remedy the problems.

FERC eliminated the requirement that California's investor-owned utilities – San Diego Gas & Electric, Southern California Edison, and Pacific Gas & Electric – sell all their power into, and buy all their power from, the California Power Exchange. This change allowed investor-owned utilities to mitigate their exposure to spot markets by entering into bilateral, long-term agreements to balance their portfolios of contracts and reduce price volatility. This also allowed the utilities to use their own resources without transacting through the spot markets. At the same time, we formally eliminated the Power Exchange's wholesale rate schedules for the spot markets, ending its ability to operate as a mandatory power exchange.

To help guard against continued volatility in California's spot markets, we directed Commission staff to hold a technical conference for purposes of establishing a comprehensive, systematic market monitoring and mitigation program, and ultimately, adopted a new mitigation program on a prospective basis. The plan became effective on May 29, 2001, and was extended to encompass the entire Western region in our June 19, 2001 order. The plan:

- retained the use of a single market-clearing price with must-offer and marginal cost bidding requirements for sales in the ISO's spot markets in reserve deficiency hours;
- applied that clearing price as a maximum price for sales outside the ISO's single price auctions;
- set a benchmark for the non-reserve deficiency market clearing price;
- instructed bidders to bill the ISO for the cost to comply with emissions requirements and start-up fuel costs;
- allowed sellers the opportunity to justify bids or prices above the maximum prices; and
- required sellers with participating generator agreements to offer all their available power in real time (this is called the "must-offer" requirement).

The June 19 Order also restated the Commission's belief that a demand response mechanism is crucial to establishing a robust market. Demand response mechanisms

give customers the opportunity to manage their demand, and allow allocation of scarce supplies to the users who value them most. The Commission stated its intent to hold a generic technical conference to explore how demand response can be increased. That conference took place last week. It included valuable discussion of how demand response can be used to check prices and market power, and afford customers control over their power bills; it delineated critical issues in linking demand response from retail into wholesale power markets; and it helped us to better understand how demand response has fared in wholesale markets and what market rules will be needed to support demand response going forward.

FERC's major orders in 2001 on California were affirmed and clarified in our December 19, 2001 order on rehearing.

IV. California ISO Market Design Proposal

While FERC's directives have improved the functioning of the California energy markets, they did not complete the restructuring that is necessary to make those markets operate efficiently. The ISO staff released, on January 8 of this year, a proposed new market design that is meant to address current problems in a systematic fashion and create a framework for a more sustainable, competitive energy market in California. The proposal was updated on January 28, 2002, to take into account input from market participants and the continued efforts of the California ISO's market design team. The updated proposal indicates that the ISO plans to make two filings with the Commission

concerning this proposal, and that those filings are targeted for late March and early May 2002.

The key features of the ISO staff proposal are as follows.

First, the ISO proposes to require that each load-serving entity have a specified amount of available capacity over and above the expected demand of its customers. This obligation would apply to all load-serving entities that serve end-use electric customers. It is meant to ensure that adequate capacity is available on a daily basis to meet system load and reserve requirements. The January 28 update extended the late March target for filing this proposal with the Commission, but the ISO's market design team plans to use the additional time to continue to develop the design and implementation details for this proposal.

Second, the ISO proposes day-ahead congestion management. This tool would allow the trading of energy at a few key hubs within the state, and adjust generation and load schedules, to mitigate transmission overloads and ensure local reliability.

Third, the ISO proposes a forward spot energy market that would replace the former Power Exchange day-ahead market. The proposal states that the ISO market design team is still evaluating its options with respect to creating a new hour-ahead spot market.

Fourth, the ISO proposes a mechanism giving the ISO discretion to evaluate whether day-ahead schedules include enough online resources to meet forecast demand, and to commit additional units if necessary.

Fifth, the ISO proposes real-time bid mitigation for local reliability needs. This is a before-the-fact tool that seeks to prevent suppliers from exercising locational market power. The ISO staff proposal states that the ISO intends to model this tool on successful designs other ISOs use.

Finally, the ISO proposes a “damage control” price cap on ISO markets. Similar to the mechanisms used in the Northeast ISOs, this price cap would replace the currently effective Commission market mitigation and serve as a “circuit breaker” in spot energy markets.

The ISO states that these proposals will be filed with the Commission. I cannot prejudge the merits of the ISO staff proposals, and will not comment upon them at this time. I will say, however, that the concerns and deficiencies addressed by these proposals are important to the efficient performance of the wholesale markets in California, and that many ideas the ISO staff proposal describes have been efficient as implemented in other regions of the country. Whether or not they are the right solutions for California, I am glad that they will attempt to address the problems in California's wholesale market design. These problems are very serious, and they must be solved. I

look forward to seeing the ISO's final proposal once it is filed with the Commission, and to hearing the views of all interested parties on these issues.

V. Standard Market Design

The need to develop balanced market rules is not limited to California; it is national in scope. To that end, the Commission has begun a rulemaking that will standardize particular aspects of electricity market design and structure, with the goal of creating a seamless, national market for wholesale electricity. The fundamental premise is that a well-designed market can, and will, do far more than after-the-fact fixes to protect customers from price volatility like that experienced by California. To create such a market, we will not begin with the lowest common denominator, but seek to identify best practices currently in operation across the nation and adapt these successful practices as the national standard. We need to ensure consistency between existing markets to facilitate the flow of power between and across regions and to give customers greater access to low-priced power.

Our effort began in June 2001 with an RTO "seams" conference, which focused on the issues raised by the Commission's requirement that an RTO coordinate with neighboring regions on minimizing or eliminating "seams" between regional markets. The frustration we heard during the "seams" conference prompted us to hold a week-long, Commissioner-led series of conferences in October 2001 to consider issues in the continued development of RTOs; we called these conferences "RTO Week." Numerous

state commissioners and representatives from every sector of the electric industry participated in RTO Week. The conferences featured informative discussions of, among other things:

- the energy markets RTOs should be required to offer, and those they should have the option of offering;
- ways to make congestion management systems more efficient and flexible;
- RTO planning and expansion;
- the load, facilities and services that should be placed under RTO tariffs;
- recovery of costs associated with building transmission facilities;
- states' role in the RTO formation and market oversight processes;
- cost-benefit analyses;
- standardization of business practices; and
- market monitoring and mitigation.

To gain a more comprehensive understanding of industry views on these and other issues, we later solicited two sets of public comments: one to follow up on RTO Week, and one to address the proper allocation of functions between RTOs and other entities. We have since received many comments on these topics, and these comments are helping the Commission and its staff better understand the needs and concerns of market participants and state regulators.

At our December 19, 2001 open meeting, Commission staff presented us with a concept paper that outlined Staff's proposal for a standard electricity market design. The paper has been released to the public, and since that time has served as a starting point for discussions throughout the rulemaking process.

We are presently engaged in significant outreach efforts. We have held a number of public technical conferences and meetings with representatives from all areas of the industry to sharpen our understanding of market design issues and their impact on market participants.

Following completion of these diverse efforts, the Commission intends to propose and, later, adopt standard market design rules this year. One issue we will have to decide is how much standardization versus how much regional variation should be allowed in light of the need to eliminate "seams" problems so that markets work efficiently, yet recognize legitimate regional differences in the way the energy markets or the transmission grid operate. We have not yet made substantive decisions about any aspects of the standard market design, but we are considering numerous ideas proposed in the staff concept paper and discussed in our outreach conferences.

For example, should we require transmission providers to offer market participants access to real-time and day-ahead energy markets? The real-time market could feature locational energy prices at different points on the transmission system that accurately reflect the cost of transmission congestion and line losses. The day-ahead market could allow buyers to see energy prices a day ahead of time and to respond appropriately, for

example, by locking in those prices. This feature could also facilitate the grid operator's planning for the following day.

Should we require transmission providers to operate a day-ahead transmission services market? Such a market could be bid-based and operated in conjunction with the day-ahead energy market in order to develop a day-ahead schedule for transmission rights. A day-ahead transmission services market could permit more efficient management of transmission congestion, and allow parties with voluntary bilateral energy transactions to acquire the transmission rights they need to complete the energy transactions.

Another issue before us is how to define transmission rights. Transmission rights may be defined as physical rights (the right to physically inject energy at one point of the grid while withdrawing energy from another point) or financial rights (the right to receive the transmission revenues associated with a specific transmission path or flowgate, and thereby hedge against congestion costs). Both models are in use today, in different regions of the country, and we must address that reality.

The Commission is also considering the need for some market or regulatory mechanism to assure that adequate generation and demand-side resources exists, relative to demand, over the long term. Having a healthy excess of capacity over demand provides long-term market stability and reduces price levels and volatility in short-term electric markets.

Finally, minimizing the costs of implementing a new market design will require a special focus on software. Any software used under the new market design must be transparent and testable. There are significant questions as to who should develop this software, at what cost, and whether and how the software can accommodate evolutions in standard market design.

Already, we see some consensus developing from the written comments we have received and the statements that have been made at our outreach conferences. There seems to be widespread, although not universal, support for implementation of day-ahead and real-time energy markets. Many parties also support a day-ahead transmission services market and implementation of financial transmission rights. We will continue to work to achieve consensus in as many areas as possible as we move forward with this important rulemaking. The Commission is committed to developing a standard market design and will be making some substantive decisions on these matters in the near future.

VI. Conclusion

The Commission has pending before it a number of important issues to decide with respect to both the independence of the California ISO as well as a market design for the California wholesale marketplace for electric energy that will bring greater efficiencies and ensure customer protection. The Commission also is moving ahead on a generic basis to achieve the vision of competitive wholesale markets that the Congress endorsed in the Energy Policy Act of 1992. We will seek to act in both of these areas with careful deliberation. A solid, well-thought out market design will encourage

competition and help ensure stable prices, both in California and elsewhere, and we remain committed to creating and implementing such a design for the benefit of the nation's energy customers. Thank you.

Mr. OSE. Thank you, Mr. Chairman.

Mr. Winter, welcome.

Mr. WINTER. Thank you, sir.

Five minutes, I'm not sure I can even get warmed up.

Mr. OSE. I did see your testimony. I've gotten through about three quarters of it, so if you could summarize that would be great.

Mr. WINTER. I will summarize very quickly.

You asked me to talk on two subjects. One was the market redesigned effort that we are involved in, and the other was the operational audit that we underwent.

I'm going to go very quickly and at a very high level, but clearly in my view the things that have caused the problems in California have been the lack of generation, lack of transmission, lack of price-responsive demand, lack of forward contracting and underscheduling in the forward market, lack of feasible schedules and the exercise of market power.

In our new design, we have tried to put particular emphasis on each of those. For generation, we have gone to what we are calling an available capacity obligation to force the suppliers, not the suppliers, but the people who supply the customer, that he have sufficient generation to meet the needs, which means he's probably going to have to buy more than he actually needs on any one particular time.

Lack of transmission, in our new design we have put in locational marginal pricing, which we hope will send better signals and, therefore, will help the transmission. It's an area I'm very concerned in, and getting lines built that we absolutely need, because as the generation comes on, if we can't get it to the customer, it does us little good.

In the area of responsive demand, we think those are retail programs that have to be done by others. We are certainly willing to accommodate them in our wholesale markets, but we do not take the lead on that.

Forward contracting and underscheduling, again, the available capacity obligation, and we are proposing in our day-ahead market that we develop what we call a residual unit commitment, which is after the day-ahead market we will look at the shortage that exists and looking at our congestion patterns actually identify units that have to come on from the available capacity that is there.

Lack of scheduling feasibility, this in the day-ahead market will be taken care of through the internal congestion, and that lack of schedules will then be identified and we'll handle that with the residual unit commitments that we perform in the day ahead.

Exercise of market power is an area that in itself would take considerable time, but let me just say that we have a three-tiered approach. One is, we think the market structure with the capacity design is one way of not letting it happen at the beginning. If we get through that, then we think we do need a damage control bid cap that many of the other ISOs now have, and if that fails then we think we need to go to a just and reasonable safety trigger that would, in fact, avoid prices getting completely out of control.

Let me just very quickly comment on the audit. You have in your package a filing of all the items that we responded to the audit in FERC. I think that, No. 1, I am not happy with the audit. The ISO

has self-audited itself several times, it's not the quality of the audit or what it says, it's more about I think that we have done a better job than that, and so I think people need to look at the circumstances we were operating under.

I cannot tell you how proud I am of the operators here. They worked under very, very difficult conditions. We had bankrupt utilities that were not buying. We had generators that were not getting paid. The operators, you know, from the time they begin their training are taught never to drop load, yet they had to face dropping load in January, and I don't think people recognize, and some of the criticism we get is, oh, you took a unit out a few minutes early. It makes a large difference whether you take units out in the middle of the night when it's dark or around peak hours. So, we would actually make decisions to try and get additional power for the 5:30 to 6 timeframe, those we were criticized for. I think the Commission, or the way the people have performed, was outstanding, and I would feel derelict if I did not mention that.

In summary, let me say that the ISO can't do it all alone. It's going to take the people in California. It's going to take the regulators in FERC in California. It's going to take the ISO. It's going to take RTOs. It's going to take regional planning. All of those have to come together to make this work. So, I certainly applaud your comments of not looking back, we must learn from the past but we have to go forward.

And finally, I think that it's going to be extremely difficult until we get the financial stability developed to really put in place a lot of the things that are more long term, and toward that regard I do become a little nervous when we have an arbitrary date of September 30th, that says I lose all the mitigation protection and I may not be able to have in place all the protection that we have in our redesign by that time.

Thank you.

[The prepared statement of Mr. Winter follows:]

**Statement of Terry M. Winter
President and Chief Executive Officer
California Independent System Operator Corporation
Before the
House Committee on Government Reform
Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs
Sacramento, California Field Hearing
February 22, 2002**

Mr. Chairman and Members of the Subcommittee:

Thank you for inviting me to share my perspectives with you today.

Since the Spring of 1998, the California ISO has had operational responsibility for most of California's electric transmission grid. The ISO directs some 200 billion kilowatt-hours of electricity annually to utilities that serve an estimated 30 million Californians. We are dedicated to performing our core functions, which include the following:

- To provide open and nondiscriminatory transmission service, and plan for California's future transmission needs;
- To ensure safe and reliable operation of the grid;
- To operate energy markets in a responsive, flexible and transparent manner; and
- To foster reasonable energy costs for California consumers.

During our nearly four years of experience in operating the electric grid, we have confronted a number of fundamental deficiencies in the structure of California's electricity markets as established under the 1996 restructuring law and the environment in which it was implemented. These deficiencies have been widely acknowledged:

- a utility infrastructure that was sorely deficient in both generation and transmission;
- lack of price-responsive demand;
- inability of utilities to enter into forward contracts;
- underscheduling in the forward market, and, finally,
- the exercise of market power.

The California ISO believes that addressing these fundamental difficulties is the only direct way for California to ensure that wholesale energy costs are reasonable and safe and reliable operation of the grid is maintained. However, changes to the CAISO markets will not address the majority of these difficulties.

To be sure, CAISO's efforts to address market deficiencies began even before the crisis in the summer of 2000, with a project we initiated to correct flaws in our congestion management procedures. This Congestion Management Reform (CMR) project was the subject of extensive stakeholder meetings that we held to inform interested parties and to thoroughly assess design options. We completed a CMR proposal in January, 2001, but could not move forward with it at that time because of the ongoing power crisis.

However, the information we received, along with analyses of other energy markets, has proven vital in the development of a new comprehensive market design initiative, the Market Design 2002 project (MD02), which is currently underway.

The MD02 project is intended as a comprehensive program of design changes in those aspects of the markets controlled by the ISO that will promote effective and sustainable performance of the ISO's core functions and support the efficient performance of California electricity markets for the benefit of all consumers. It is neither an attempt to reinvent the wheel, nor an experiment with untried market designs. Market elements that have worked well in California (and there are a number) will be left alone. Where there are flaws or missing pieces in the current market structure, the proposal draws from market elements that are working well for similar organizations in other parts of the country. In short, the proposal is a synthesis of proven elements that already work.

Let me remind you that there is a real sense of urgency associated with MD02 because the current Federal Energy Regulatory Commission (FERC) price mitigation plan for the Western United States expires on September 30, 2002. The ISO's proposed changes must establish continuity of system operation and stability of market performance through that important milestone. We hope to file at FERC by the end of March those elements needed for implementation by 9/30/02. Other aspects of the plan must also be completed within a very short timeframe. For example, on December 19, 2001, FERC ordered the ISO to complete plans for congestion management and a day-ahead energy market by May 1, 2002. Additional elements may take longer to implement, but the ISO hopes to complete the implementation of an entire plan before Summer, 2003.

For your convenience, I have attached a chart that describes the key elements of MD02. These elements are focused on those design changes that can be made **within the ISO's scope of operations** to address deficiencies that led to the crisis. We are committed to striving for simplicity, cost-efficiency, and transparency, as well as consistency with real-time operating needs

- In order to address the problem of inadequate generating capacity, we have proposed an **Available Capacity Obligation (ACAP)** and **Locational Marginal Pricing**. These changes will help to establish capacity availability in real time, improve locational price signals for generation and transmission, and improve investment signals. The effectiveness of the ACAP can only be realized, however, with the cooperation of the California Public Utilities Commission and their ability to provide guidelines for just and reasonable procurement to load serving entities.
- We believe that the proposal will also help to address the lack of price responsive demand, by improving wholesale price signals and establishing opportunities for demand programs.
- To address problems caused by lack of forward contracting and underscheduling, we have proposed, in addition to ACAP, a **day-ahead residual unit commitment** and a **day-ahead energy market**. These will provide incentives for forward contracting by Load Serving Entities, assure that capacity is on-line to meet forecasted load, and reduce reliance on the real-time market.

- Problems caused by a lack of schedule feasibility will be addressed by **Integrated Congestion Management**, which will result in identification and pricing of all constraints in the day-ahead process and eliminate inter-zonal and intra-zonal distinction.
- Finally, the ACAP, unit commitment and bid cap elements will address market power by diminishing opportunities for physical and economic withholding.

I want to emphasize that MD02 is a work in progress, representing the current direction and thinking of our staff and incorporating comments that we have received to date. From our first round of workshops we received over 30 comments, all of which are posted on our website. We are now holding another round of stakeholder workshops in which interested parties will have an opportunity to submit their comments. It is important to note that in addition to the stakeholder focus groups and comment opportunities provided by the ISO in the course of developing the proposal, stakeholders will be able to provide comments directly to FERC after the ISO makes its filings.

The ISO can address many deficiencies through market design changes, but these are only part of the solution. The resolution of the structural, operational and financial issues that contributed to the California crisis will require a much broader, highly coordinated effort among many parties. Transmission lines will need to be upgraded, new and diversified generation added, demand responsiveness programs implemented, and portfolio standards of the Utility Distribution Companies put into place. Creditworthiness must be addressed. These challenges, and others, are largely outside the scope of the ISO's responsibility, and each of them is crucial to our goals. In addition, planning, reliability and security issues must be managed on a regional basis. We look forward to working with FERC, representatives of state and local governments, stakeholders and regional entities toward the success of this important endeavor.

The Subcommittee has also asked that I comment on FERC's Operational Audit of the CAISO, issued on January 25, 2002; and, specifically, on findings regarding CAISO governance. On February 15, 2002, CAISO filed comments on this audit with FERC. I am appending these comments to our testimony and hope that you will find them helpful. In summary, we believe that the current Board of Governors has performed effectively during the crisis, allowing the ISO management and staff to operate with sufficient latitude on a day-to-day basis and adding valuable expertise to the ISO's decision processes. We are strongly committed to working with FERC, state policymakers, and other interested parties to address matters raised in the audit and to develop an integrated and realistic plan for the optimal performance of California's electricity markets.

California Independent System Operator
Market Design 2002 Project
COMPARISON TABLES
To accompany Draft Comprehensive Design Proposal

This document is intended as a supplement to the Draft Comprehensive Design Proposal prepared for presentation at the February 7, 2002 meeting of the ISO Board of Governors. It is based on material previously released to the public in the January 8, 2002 "Preliminary Draft Comprehensive Design Proposal," as revised and updated by the January 28, 2002 "Revised Draft Comprehensive Design Proposal and Project Time Line" publicly released by the ISO.

ISO Management initiated the Market Design 2002 (MD02) project to (1) take a comprehensive view of the changes needed in the structure of California's electricity markets, with a focus on those markets operated by the ISO in performance of its core functions, and (2) develop an integrated program of proposed market design changes that will address current problems in a systematic fashion and create a framework for a sustainable, workably competitive electric industry that benefits all California consumers and is compatible with the rest of the western region.

The present document contains three tables to help explain and clarify the ISO's evolving Draft Comprehensive Design Proposal:

Table 1. Overview of Proposed Major Design Elements

Table 2. Proposed ISO Market Time Line

Table 3. Roles and Responsibilities Associated with Major Design Elements.

Table 1. Overview of Proposed Major Design Elements

Proposed Structural Element	Current Design	Problem Addressed	Comments
1. Available Capacity (ACAP) Obligation. Load-serving entities (LSEs) will have an Available Capacity Obligation, defined as a margin above their monthly peak load, to be met by a combination of own generation, firm energy contracts, capacity contracts, and demand-side management. CAISO will verify compliance monthly and assess penalties for any shortfall. Designated ACAP resources will be required to be fully scheduled or bid into CAISO markets to serve ISO control area load (and specifically, except for LST units not scheduled in the day-ahead market for energy or A/S, and not committed in the Residual Unit Commitment, bid all unscheduled available capacity in ISO's real-time market), daily performance will be monitored and penalties imposed for non-performance. NOTE: In the initial period (beginning October 1, 2002) the CAISO may modify some aspects of the ACAP requirement in recognition of current UDC credit problems, and may either play a greater role itself in procuring ACAP or may propose alternative measures that accomplish the objectives of the ACAP Obligation until current transitional conditions in California's electricity industry are resolved. For example, the level of the ACAP requirement could be reduced by the estimated level of expected net imports; instead of imposing a penalty, the ISO could procure the ACAP net short and charge the cost to those entities that do not meet their full ACAP obligation in proportion to their ACAP shortfall.	This element has no counterpart in today's California design.	No entity is responsible to ensure that adequate capacity is procured and on-line to meet California load. CAISO operates with continual pressure to ensure adequacy, often going into real time with uncertainty. Proposed ACAP obligation places responsibility squarely on LSEs.	The "must offer" obligation under FERC's June 19 Order applies only to the capacity that is not on forced or maintenance outage, and is not encumbered in bilateral arrangements. The ACAP obligation provides for the following: • "must offer" obligation • obligation to serve California load • risk coverage against forced outage (backup supply in case ACAP resource is forced out). Ideally ACAP should be in place by 9/30/02 when FERC mitigation expires, but due to the current UDC credit problems, its full implementation may require a transition period beginning on October 1, 2002. Capacity obligation is typical of eastern ISOs. In those ISOs, however, forced outages do not have a real-time impact on the supplier, but only a prospective impact on a resource's capacity that is eligible to provide ACAP. ISSUE: Although during the transition period, it appears practically inevitable that the ISO would step in to procure the ACAP net short, the question remains for the ultimate state of the ACAP market, whether the obligation should be fully bilateral (self provision), or the CAISO should run a market for capacity.

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2. Forward Congestion Management (CM). Uses Full Network Model (FNM) to adjust schedules to clear congestion. Congestion prices in forward market are the difference between nodal energy prices. Locational Price Areas (LPAs) may be defined for load scheduling and as trading hubs. SCs submit Energy/Adjustment Bids with their schedules, and CM clears all economic energy bids in the process of resolving congestion. Balanced schedules become an option, no longer a requirement. SCs who want to preserve physical bilaterals can submit high bids (highly positive for incremental bids and highly negative for decremental bids), be price takers for congestion charges, and hedge with financial FTRs. Loads are required to schedule at either the bus level or to the LPA level, then CAISO allocates the LPA level schedules to nodes by bus load distribution factors. If ETC scheduling time line can not be modified to DA, CAISO may offer recallable transmission service (RTS) after allocating firm transmission.¹ With the FNM including all transmission constraints, congestion mitigation on certain paths may not be amenable to competitive bidding; locational market power mitigation will apply accordingly, similar to the mechanism for real-time locational market power mitigation.	Forward congestion management (CM) based on 3 zones, does not manage intra-zonal congestion, and enforces Market Separation Rule to keep each SC's schedule in balance.	Forward CM criticized by FERC for: 1. inadequate locational pricing; 2. failure to prevent infeasible schedules due to intra-zonal congestion; allowing DEC game. Use of FNM will solve both problems and will provide a permanent solution to replace interim intra-zonal congestion management recently filed at FERC. Phantom congestion due to reservation of unused ETC capacity up to T-20 has been a persistent problem that makes forward CM highly artificial.	CAISO's targeted 102 filing of Interim Intra-Zonal will commit to following up with permanent solution as proposed here. Pre-CM validation step will reject inter-hour ramp schedules that are not feasible within 60 minutes, rather than CAISO making adjustments. ISSUE: How to enable ETC rights holders to meet their needs when CM uses a FNM.
3. Firm Transmission Rights (FTRs) Redesign of Congestion Management to use a Full Network Model requires redesign of the FTR instrument to enable hedging of congestion risks. There will be provisions for point-to-point (PTP), point-to-hub (PTH), and hub-to-hub (HTH) FTRs. Only PTP FTRs will enjoy day-ahead scheduling priority.	FTRs are currently path specific and defined only from a zone (or scheduling point) to an adjacent zone (or scheduling point). They provide both financial entitlement and day-ahead scheduling priority.	The current path-specific design of FTRs is not practical with CM based on a full network model. Path-specific FTRs would require the SC using FTRs to hedge against congestion charges to procure FTRs in specific proportions on various paths based on shift factors. Moreover, the SC can lose scheduling priority on all paths if it fails to acquire it on even one of	ISSUES: 1) How should the new FTRs be allocated initially? Main options are: (a) auction open to all qualified bidders, or (b) allocate to load-serving entities in proportion to their shares of CAISO control area load. 2) Should FTRs be options (as our FTRs

		the paths with non-zero shift factor for its preferred schedule even if only a small fraction of the scheduled flow uses the unhedged path.	today), or obligations (i.e., subject the FTR holder to pay counterflow usage charges for the FTRs it owns but does not schedule)?
4. Forward Spot Energy Market: By performing energy trades within the CM procedure the CAISO is essentially conducting a day-ahead energy market. CM will perform all economic trades based on submitted adjustment/energy bids, creating forward nodal energy prices.	PX provided transparent forward energy market in original California design. To date no mechanism has replaced the PX function.	LSEs have no transparent energy market in which to procure hourly increments to shape next day's supplies.	By incorporating energy trading into CM, which is a consequence of enforcing all significant transmission constraints to solve the known flaws in CM, there will probably not be a need to create a separate PX-type energy market. ISSUE: Should the ISO offer a day-ahead Unit Commitment service, and allow 3-part bids (start-up, no-load/min-load, and incremental energy) in the process of clearing the day-ahead energy/congestion markets?
5. Residual Forward Unit Commitment (UC): After close of DA market, CAISO will determine if additional generation resources must be brought on-line for next day's needs. Resources identified under LSEs' capacity obligation must be available for UC; other resources may bid into UC market.	By design, forward UC is entirely up to market participants (except for RMR). CAISO's recent proposal for long-startup-time units under FERC's June 19 Must Offer requirement moves in the proposed direction by having CAISO commit long start-up time (LST) units on DA basis.	Forward scheduling is based on SC submitted loads, and frequently falls short of CAISO forecasted load. Under the pure self-commitment design, CAISO frequently goes into real time with great uncertainty about capacity adequacy. Even with under-scheduling penalties on load-serving entities, CAISO needs a back-up capability to commit capacity ahead of real time.	Combination of capacity obligation and forward UC resolves CAISO's concern about under-scheduling by allowing CAISO to ensure that adequate capacity will be available in real time. Resources committed by the CAISO will be guaranteed recovery of appropriate start-up and minimum load cost, using a net-of-market-revenues approach as the CAISO recently proposed regarding the must offer obligation, and which is consistent with the eastern ISOs. ISSUE: Need to assess whether combination of forward UC, capacity obligation and local market power mitigation will enable CAISO to eliminate RMR contracts (except perhaps for some Condition 2).
6. Ancillary Services (AS): Some redefinition of	AS market is run after CM, both	Regulation units that ramp for inter-hour	ISSUE: Should AS procurement be

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services needed to address current design deficiencies. Available Capacity Obligation encourages self-provision of operating reserves, and the associated availability provisions essentially eliminates the need for replacement reserves.	in DA and HA, CAISO buys Replacement Reserve to cover expected real-time shortfall.	schedule changes are typically unable to provide service.	integrated with CM or kept as a separate step following CM?
7. Modifications to Hour Ahead Market. The CAISO is considering simplifying the HA market by performing only CM and energy trading. This will allow the HA closing deadline to be closer to the operating hour, perhaps up to T-60 minutes.	HA market closes to submissions 2 hours prior to the start of each operating hour (T-120 minutes). Today's HA market includes an AS procurement step.	There has been considerable desire by market participants for an HA time frame that allows schedule changes and energy trades closer, but still prior to, the operating hour, to allow late adjustments to supplies to meet changes in system conditions and load forecasts.	The proposal will enhance energy trading, particularly between California and the rest of the western region, and will improve the accuracy of final schedules.
8. Real-time Economic Dispatch using Full Network Model (FNM). 10-minute dispatch will fully take into account inter- and intra-zonal congestion, loop flows, generator constraints, and imbalance needs. This will result in nodal real-time prices (including prices for real-time energy at the ties), which will be paid to generators and possibly averaged at LPA level for charges to load deviations.	Real-time dispatch based on 3 zones and merit-order BEEP stack. Requires out-of-sequence dispatch for real-time congestion and local needs. It also fails to price energy at the ties.	Current design requires high level of complex operator scrutiny and decision making to ensure 10-minute dispatch reflects inter- and intra-zonal congestion, ramping and other resource constraints, as well as system imbalance needs. This will not be practical with increase in local congestion problems.	Operational basis is optimal power flow model, utilizing new ENS system and state estimator. Proposal is a logical extension of the changes being made under the 102 Real-time Market Pricing ("Target Price") filing.
8A. Single 10-minute Real-time Price at each location. This feature is a consequence of the previous one, Real-time Economic Dispatch, but is highlighted here because it is a significant change from the current real-time market design. Elimination of separate INC and DEC prices, to be supplemented by system of penalties (with a deadband) for uninstructed deviation.	10-minute settlement is based on distinct INC and DEC prices, which are intended to provide incentives to avoid uninstructed deviation.	Target Price allows manipulation (although the recently revised Target Price procedure based on feasible 10-minute bids and incremental gas-fired proxy prices, reduces such gaming to a large extent), and separate INC and DEC prices have not been sufficient to prevent uninstructed deviations. Operators need greater certainty about resources real-time compliance with dispatch instructions.	Will be accomplished for today's 3-zone structure with 102 Target Price filing. A system of penalties for failing to follow CAISO dispatch instructions will also be implemented by the 102 filing to replace and improve upon the incentive effect of the separate INC and DEC prices.
9. Real-time Bid Mitigation for Locational Needs. As proposed in Nov. 21 Board Memo on Interim Intra-Zonal Congestion.	CAISO must pay resources as-bid when re-dispatching for intra-zonal, allowing them to exercise locational market power.	Per FERC rejection of Am. 23 CAISO can incur considerable cost due to locational market power where there are no RMR units.	Will be accomplished with 102 Interim Intra-zonal Congestion filing. Bid mitigation for local reliability will be extended to the forward markets once the

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10. Damage-control price cap on CAISO markets. As is typical of the eastern ISOs, the proposal is to have a high-level damage-control cap on CAISO markets.	The present soft cap implemented under FERC's June 19 order provides a cap on MCP and requires justification of bids accepted above the soft cap.	Without price mitigation as provided by the June 19 FERC order, spot markets will be vulnerable to occasional extreme peak prices.	full network model is implemented in congestion management.
Damage control price caps exist in all ISO markets. The \$1,000/MWh cap on energy approved for the eastern ISO and ERCOT markets seems impudent for the California market as a start. In California it may be appropriate to start with a lower damage control price cap and transition to a higher level as the ACAP Obligation becomes fully effective. The required levels of such caps will depend on the design of the other elements implemented by September 30, 2002 when the FERC mitigation expires.			

IMPORTANT NOTE: Of the elements discussed above, the following are necessary for implementation by September 30, 2002, when the current FERC-ordered mitigation measures expire:

- Element 1 (modified for the near term). ACAP Obligation, or an effective substitute in light of the uncertain credit status of the UDCs, with effective market power mitigation to address economic withholding of supply.
- Element 4 (modified for the near term). Day-ahead and hour-ahead energy trading, through relaxation of the Market Separation Rule.
- Element 5. Residual day-ahead unit commitment.
- Element 9. Real-time bid mitigation for local reliability needs.
- Element 10. Damage-control price cap on CAISO markets.

Table 2. Proposed CAISO Market Time Line

Time Frame & Activity	Comments
Prior to Day Ahead	
On a multi-annual, annual or sub-annual basis, the LSEs engage in bilateral contractual arrangements to meet their anticipated ACAP obligations. Prior to the day-ahead market, CAISO verifies that load-serving entities meet their capacity obligations. [During the transition period, the UDCs/LSEs declare the part of their ACAP obligation they have not met a month in advance for the ISO to procure the net short]	Obligation of (100 + X)% monthly peak, verified monthly, with penalties for shortfall and enforceable availability requirements for designated capacity resources.
CAISO conducts FTR auction. Market Participants trade in the FTR secondary market and register trades with ISO.	Current type of FTRs issued for today's major interfaces may continue as a combination of point-to-hub and hub-to-hub FTRs. Only point-to-point FTRs can retain day-ahead scheduling priority.
Day Ahead	
Contracted ACAP resources may submit bilateral schedules, and submit energy and/or ancillary service (A/S) bids for remaining contracted capacity. Resources not covered by ACAP contracts may also submit bilateral schedules, and energy and/or A/S bids. LSEs submit load bids, and may self-provide A/S requirements. ISO conducts DA congestion management using full network model including external loops. Market separation will be optional, with the SC being a price taker for congestion charges. Spot energy market implicit in CM allows LSEs to shape generation procurement to meet daily load profile (similar to former PX function).	Schedules will be rejected if inter-hour ramps are not achievable by generators within 60 minutes. Loads required to schedule and settle at local pricing area (LPA) or nodal level. Market power mitigation will apply in the face of locational day-ahead requirements to manage congestion on non-competitive interfaces. CM uses a full network model, and therefore will need to perform energy trading to clear congestion. A/S market may be integrated with CM. Some redefinition of services as needed. With capacity obligation more SCs will prefer to self provide A/S. The ISO may provide a day-ahead Unit Commitment service (with 3-part bids for start-up, no-load/min-load, and energy); this is, however, open for discussion. If decided, the ISO may do simultaneous clearing of energy, A/S, and congestion using a transmission-constrained unit commitment (TCUC).
Following allocation of firm transmission, CAISO runs recalleable transmission service (RTS) using unscheduled ETC capacity.	This is a second best option. Preferred would be for ETC holders to agree to CAISO scheduling time line (i.e., ETC rights expire after DA, like FTRs).
Following CM and A/S, CAISO runs <i>Residual</i> Unit Commitment market.	If submitted schedules do not fully reflect CAISO load forecast, CAISO may commit additional units to ensure adequate capacity on-line. CAISO's unit commitment will evaluate start-up and minimum load costs, and schedule residual units at minimum load.
Hour Ahead	
HA market provides opportunity for schedule changes and incremental procurement of energy, and runs congestion management to ensure	With capacity obligation and day-ahead unit commitment, HA market may be substantially simplified. CAISO is considering moving HA time line closer to real time to accommodate LSEs' need for late energy trades and

feasible final HA schedules. CAISO makes adjustments to RTS allocation if necessary.	schedule changes and to increase participation of imports in HA. Possible simplification – eliminate HA A/S market, but retain use of DA A/S bids for additional procurement in real time if needed. Possible ultimate simplification: If ISO provides a day-ahead Unit Commitment service (as part of clearing the day-ahead market, not just the Residual UC), the hour-ahead market may be made advisory, thus reducing the market from a 3-settlement system to a 2-settlement system.
Real Time	
Run constrained economic dispatch using full network model (FNM) including the external loops every 10 minutes.	FNM accounts for all transmission constraints, loop flows, and generator performance parameters and constraints. Generators will earn nodal prices; loads may pay average LPA prices. Locational market power mitigation will prevail in the face of locational real-time requirements

Table 3. Roles and Responsibilities Associated with Major Design Elements

Structural Element	ISO	Market Participants	Other Entities	Comments
1. Available Capacity (ACAP) Obligation	Define monthly ACAP requirement for each UDC service area. Advisory on an annual basis; firm on a monthly basis two months prior to each month (based on rolling 12-month window). Verify compliance daily prior to the day-ahead market and assess penalties for any shortfall. In the transition period (beginning October 1, 2002 until UDC credit uncertainties are resolved) instead of imposing a penalty, procure the ACAP net short on a monthly basis and charge the cost to those entities that do not meet their full ACAP obligation in proportion to their ACAP shortfall.	UDCs to allocate ACAP obligation among LSEs. LSEs to arrange to meet their ACAP obligation to be met by a combination of own generation, firm energy contracts, capacity contracts, and demand-side management. SCs responsible for ACAP generating units will fully schedule or bid the ACAP generation into CAISO markets to serve ISO control area load (and specifically, except for LST units not scheduled in the day-ahead market for energy or AUS, and not committed in the Residual Unit Commitment, bid all unscheduled available capacity in ISO's real-time market).	CPUC regulates ACAP procurement and recovery of associated costs by UDCs. Power Authority may step in to help purchase ACAP to provide for UDC net short in a bilateral arrangement with UDCs thus making it unnecessary for the ISO to get involved in ACAP purchases. UDCs and CEC forecast ACAP obligations over various time frames for multiple LSEs operating within each UDC service territory.	Although during the transition period the CAISO could step in to procure the ACAP net short, the question remains for the ultimate state of the ACAP market, whether the obligation should be fully bilateral (self provision), or the CAISO should run a market for capacity or serve as provider of last resort.
2 and 4. Day-ahead Congestion Management (CM) and Energy Market	Publish network conditions, load forecast, loop flow estimates, and other PMI two days before the operating day. Conduct forward congestion management (and forward energy market), using a full network model (FNM) with voluntary market separation.	Submit balanced or unbalanced schedules; submit adjustment bids as needed to hedge against congestion charges or energy transactions. State willingness for using RTS for non-firm energy.	Neighboring control areas and RTOs. Since forward CM will consider external loops, it will be helpful to have common agreement on how to treat loop flows in forward scheduling.	An issue being addressed and as yet unresolved is how to enable ETC rights holders to meet their needs when CM uses a FNM. A decision is needed as to whether the ISO should offer a day-ahead Unit Commitment service, and allow 3-part bids (startup, no-load/min-load, and incremental energy) in the

California Independent System Operator **DRAFT – Work In Progress**

	Allocate unscheduled ETC as Recalibrate Transmission Service (RTS) after allocating firm transmission. Determine charges and payments for congestion management, FTR revenues, and energy trades resulting from congestion management where voluntary Market Separation is not exercised.			process of clearing the day-ahead energy/congestion markets.
3. Firm Transmission Rights (FTRs)	Determine level of FTRs (point-to-point, point-to-hub, and hub-to-hub) to be auctioned for simultaneous feasibility; conduct annual (and monthly?) FTR auctions. Allocate FTR auction revenues to Transmission Rights Holders; allocate forward market congestion rents to FTR owners.	Trade FTRs in secondary markets and register with ISO. Attach PTP FTRs to schedules for scheduling priority as desired.		How should the new FTRs be allocated initially? Main options are: (a) auction open to all qualified bidders, or (b) allocate to load-serving entities in proportion to their shares of CAISO control area load. Should FTRs be options (as our FTRs today), or obligations (i.e., subject the FTR holder to pay counterflow usage charges for the FTRs it owns but does not schedule?)
5. Residual Forward Unit Commitment (UC)	After close of DA market, determine if additional generation resources must be brought on-line for next day's needs; commit additional units with a view to locational reliability needs while minimizing commitment cost. Determine UC uplift payments based on net of market revenues; recover net UC costs from SCOs with real-time net demand compared to forward schedules.	SCs responsible for resources identified under LSES; ACAP obligation must ensure ACAP resources not scheduled in the day-ahead market are available for Residual UC. Other (non-ACAP) resources may bid into Residual UC market.		Need to assess whether combination of forward UC, capacity obligation and local market power mitigation will enable CAISO to eliminate RMR contracts (except perhaps for some Condition 2).

6. Ancillary Services (A/S)	Define level of A/S requirement (e.g. % of load, etc.) Conduct forward market A/S capacity auction; pay for non-self provided A/S; charge for non-self provided A/S. Perform tests of A/S resources to determine deliverability.	Provide self-provided A/S schedules, bilateral A/S schedules, and bids to sell A/S. Submit A/S resources to tests to determine deliverability.		ISSUE: whether to integrate A/S procurement with CIL or keep as a separate step performed after CIL. A related issue is whether to allow A/S and Energy to compete to secure scarce transmission capacity, particularly with regard to imports and exports of A/S. May be desirable to simplify HA market by eliminating HA A/S market and procuring any needed additional A/S in real time.
8. Real-time Economic Dispatch using Full Network Model (FNM)	Conduct 10-minute economic dispatch fully taking into account inter- and intra-zonal congestion, loop flows, generator constraints, and imbalance needs. Determine and publish nodal real-time prices (including pricing real-time energy at the ties). Settle with generators providing imbalance energy at real-time nodal prices; settle with load deviations based on scheduling granularity (nodal price if scheduled at node, or averaged at LPA level if scheduled at LPA level).	Submit real-time energy bids for all unscheduled ACAP (mandatory) Submit energy bids from non-ACAP resources (as desired) Perform in accordance with final schedules as modified by ISO dispatch instructions.	Neighboring control areas: Rules for settlement for real-time loop flows need to be compatible between CASO and adjacent control areas.	Operational basis is optimal power flow model utilizing new EMS system and state estimator.
9. Bid Mitigation for Locational Needs	Clearly state and file with FERC (along the lines of FERC Filing intended for Jan 02 and approved by ISO Board for real-time market with extension to forward market)	Provide heat rate and start up data for gas fired units on an annual basis.	FERC to approve for California bid mitigation along the lines already approved for Eastern ISOs (e.g. PJM).	Will be accomplished for the real-time market with 1/02 Interim Intra-zonal Congestion filing.

	conditions for bid mitigation Mitigate bids for locational requirements; Pay mitigated resources the higher of mitigated price or MCP and charge the lower of proxy price or MCP.			

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Operational Audit of the California Independent System Operator	))	Docket No. PA02-1-000
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Comments of the California Independent System Operator Corporation on
the Commission's Operational Audit of the CA ISO

The California Independent System Operator Corporation ("CA ISO") appreciates the opportunity to provide comments on the Commission's Operational Audit of the CA ISO ("Audit"), issued January 25, 2002. The CA ISO is strongly committed to working with the Commission, state policymakers, and other interested parties to address the specific matters raised in the audit and to forge a realistic and integrated plan for addressing the fundamental problems that plague the California electricity market and gave rise to the electricity crisis of 2000 and 2001.

Executive Summary

The CA ISO believes that many of the issues and concerns referenced in the Audit are an unavoidable consequence of the conditions in which the CA ISO was forced to operate. The swift and thorough decay of the California electricity market forced both the CA ISO and the State of California to assume enormous responsibilities in order to protect the safety and welfare of the citizens of California. As the financial stability of the California electricity market came into question and confidence in the institutional and market mechanisms eroded, the CA ISO has been forced to provide for the continued and reliable operation of the transmission system under extremely tenuous circumstances. As a result of non-payment and a lack of market transparency,

on a moment-to-moment basis the CA ISO was unsure whether market participants would respond to its instructions. At the same time, the State was forced to quickly procure, both under forward contract and in real time, the capacity and energy necessary to serve the load of its bankrupt or near-bankrupt investor-owned utilities. Thus, considering the circumstances, the findings of the Audit are not surprising. However, throughout this tumult, the CA ISO exhibited a steadfast resolve to both reliably operate the system and pursue all necessary measures to ensure the return of stable and reasonable prices in the market. The CA ISO's efforts in this regard cannot and should not be diminished or tarnished by the failings of the market as a whole. The CA ISO believes the Audit confirms that conclusion.

The Crisis Is Not Over

As all affected parties begin to understand the need for a solid foundation and framework for a sustainable California energy market, it is imperative that we be mindful that the conditions that gave rise to crisis of 2000 and 2001 still exist and that the crisis of the past two years can easily reappear. Absent forthright and collective action by federal and state policymakers, the fundamental deficiencies that gave rise to the crisis will persist and we will once again find ourselves with a system gone awry. The Commission has asked parties to comment on the specific recommendations of the Audit, and the CA ISO does so below. More importantly, the Commission has asked parties to prioritize those specific recommendations and to discuss the appropriate time frame for their implementation. There is no more important task than to collectively prioritize the necessary actions of all affected parties and to develop an integrated and systematic work plan and schedule for their implementation – a plan and schedule that

reflects a realistic assessment of current and foreseeable conditions. The root cause of the problems that persist in California is not the CA ISO or its markets, but rather a systemic failure to build the infrastructure needed to support a reliable and competitive electricity market.

Near-term Conditions are Uncertain

There has always existed a frustrating tension created by the delay between the sending of investment signals and the building of needed infrastructure. Compounding this tension in California is the financial status of state's investor-owned utilities ("IOUs") – it is unclear when these utilities will be restored to financial health (*i.e.*, creditworthiness) and when they will be able to once again plan for and acquire the resources necessary to satisfy their own load. Even if the CA ISO is able to make arrangements (*e.g.*, posting of security or other short-term arrangements) with the IOUs for them to participate in the CA ISO's markets, it is uncertain whether they will be able to build or purchase the resources they require to serve their load on a long-term basis. In fact, the judge's recent ruling in the Pacific Gas & Electric Company's ("PG&E") bankruptcy proceeding may require PG&E to reconsider its fundamental approach to resolving its financial woes.

In addition, the California Department of Water Resource's ("CDWR") authority to procure energy on behalf of the IOUs terminates at the end of this year. It is unclear whether the CDWR, or the State in general, will have the wherewithal to continue in this role. Absent state legislative action to continue the State's role in purchasing power to cover the IOUs' net short position, the IOUs may be once again faced with the prospect of being unable to purchase electricity on a long-term forward basis or through spot

market purchases. The thought of once again placing the CA ISO or the State in a position of relying on the vagaries of a spot market potentially unprotected from the exercise of market power and manipulation may forever erode confidence that such mechanisms (*i.e.*, markets) can reliably and reasonably satisfy the needs of the citizens of California.

Thus, in light of these uncertain circumstances the Commission's actions over the next several months may determine the fate of the California market. Among all the recommendations in the Audit, the CA ISO believes that there is none more important than the call for "jurisdictional cooperation." If this is to occur the CA ISO believes that it is imperative that the Commission restore the State's perception that the Commission will take all necessary actions to protect the public interest.

The Commission Must Stand Ready to Extend the Existing Price Mitigation in California

The Commission's June 19 price mitigation measures helped staunch the bleeding from the 2000-2001 electricity crisis. However, the long-term prognosis for market recovery will once again be brought into question if the Commission arbitrarily removes the June 19th price mitigation measures before determining that the market is competitive. The Commission's determination to sunset the June 19 price mitigation measures on September 30, 2002, without first determining that the market is healthy (or at least stable) is highly questionable. Moreover, relying on the CA ISO to develop and propose a market monitoring and mitigation plan that can effectively mitigate all vestiges of market power is unrealistic. While the CA ISO can certainly focus on coarse measures to mitigate the exercise of market power, these instruments may not be compatible with the Commission's long-term preferred approach. Most certainly, the

Commission would prefer the development of structural, institutional and market-based mechanisms that ensure that the fundamental deficiencies in the California market (e.g., lack of generation, lack of transmission, lack of price-responsive demand) are addressed. These institutions and measures will take time to develop and implement. More importantly, they require highly-coordinated action by both federal and state policymakers. To think that these measures can be in place and effective by the end of this year is not realistic.

For example, the CA ISO is currently examining, as part of its Commission-directed Market Design 2002 ("MD02") effort, development and implementation of an Available Capacity Obligation ("ACAP") on load-serving entities in California. As further explained in the CA ISO's MD02 documents,¹ the purpose of implementing this requirement is two-fold: 1) to provide incentives for forward contracting between load-serving entities and suppliers and thus incentives for the development of new generation and price responsive demand; and 2) to ensure that the CA ISO has available in the forward market sufficient capacity to serve forecasted load (*i.e.*, ensure reliability).² The CA ISO believes that satisfaction of both these objectives will greatly reduce the ability of suppliers to exercise market power in the CA ISO's spot markets. However, development and implementation of this tool will require close coordination between the Commission, the CA ISO, the California Public Utilities Commission ("CPUC") and perhaps other state agencies – as well as load-serving entities and suppliers. In fact, when fully implemented, the CA ISO views its role as primarily

¹ (see <http://www.caiso.com/docs/2002/02/01/200202011618138281.html>)

² The CA ISO notes that one of the Audit's findings suggests the imposition of such a requirement.

“checking the temperature” of the capacity market on a periodic basis. Thus, the CA ISO believes that primary responsibility for effective long-term satisfaction of this requirement lies with load-serving entities in California, as appropriately overseen by the CPUC, and perhaps with the involvement of other state agencies.

Specifically, the CA ISO believes that the manner by which load-serving entities in the state satisfy the obligation is a state public policy decision. For example, it is clearly within the state’s domain to prescribe the mix of resources that a load-serving entity may use to satisfy its capacity obligation. While the CA ISO has a vested interest in ensuring the availability of those resources (and therefore the nature of the product being made available), it is appropriate for the state to establish standards regarding the portfolio of resources to be used to satisfy the capacity obligation. The state may determine that a certain percentage of a load-serving entity’s capacity be supplied from clean-burning resources or other alternative energy resources.

The CPUC has recently instituted a formal rulemaking proceeding regarding the procurement practices of the IOUs (see CPUC Docket No. R01-10-024). As this proceeding has just begun, it is unlikely that the CPUC will issue a final rule before the end of this year. The CA ISO believes that until these procurement rules are established, the IOUs will have little comfort that the capacity or energy they procure to satisfy a CA ISO-imposed obligation will be deemed prudent or reasonable before the CPUC. In these circumstances, even if the IOUs were all financially healthy, it is unlikely that the IOUs will be able or willing to forward contract for the capacity and/or energy necessary to satisfy the CA ISO’s reserve obligation.

It is obvious that a multiplicity of players will have a role in crafting a comprehensive solution to California's energy problems. The roles and responsibilities of all parties must be clearly staked out before we begin to step forward with specific proposals. For too long the CA ISO has been asked by federal and state policymakers to assume responsibilities that are rightly and more appropriately borne by others, including state and federal regulators. That must end.

Priorities and Timeline

The Commission has asked respondents to prioritize the specific recommendations of the Audit and to discuss an appropriate time frame for implementation of those recommendations. While not necessarily specific to the Audit's findings and recommendations, the CA ISO recommends the following:

- 1) **Jurisdictional Cooperation** - Federal and state policymakers must reach out to one another and form an effective partnership to resolve the problems that plague the market. The Commission, under the new Chairman's leadership, has already committed to forming FERC-State Panels to address issues regarding Regional Transmission Organization ("RTO") development. The CA ISO urges to the Commission to act quickly to create such forums in the West to address the issues raised above.
- 2) **Ensure Effective Price Mitigation** - The Commission must ensure that fail-safe market power mitigation measures are in place in the California market. As stated above, the conditions that gave rise to crisis of 2000-2001 have not abated. Therefore, the Commission must not arbitrarily remove the currently effective price mitigation measures based on a presumption that the market is workably competitive. In fact, the CA ISO believes that the Commission must affirmatively establish that the California market is competitive, comparable to the finding it must make when granting market-based rate authority. To the extent that the Commission is inclined to remove such measures, the Commission must stand ready to act swiftly and effectively (or empower the CA ISO to do so) to reinstitute such measures should the market once again begin to implode.
- 3) **Define Roles & Responsibilities** – Ever since the advent of open access and the issuance of Order Nos. 888 and 2000, issues have been raised with respect to federal-state jurisdiction. Moreover, the roles and obligations of market participants has also been blurred as historical relationships and functions have changed. In fact, the Commission is currently examining the

proper distribution of roles and responsibilities with respect to the core functions of an RTO. Role and responsibility clarity are critical at this juncture. Collectively, none of us should "assume" certain responsibilities will be met. This effort does not require that all parties come to agreement on these issues. The critical first step is for all parties to identify, for the other's benefit, what role and function they believe they must perform and all must agree to respect the roles of others.

- 4) **Establish a Realistic and Sequential Timeline** – All parties, but especially the Commission, must establish a realistic (but aggressive) schedule for addressing their core responsibilities. The Commission and state policymakers should establish a rational process for the development of sound and appropriate institutional and market mechanisms that will address the fundamental failings of the California market. The CA ISO notes that the Commission has already embarked on an ambitious rulemaking process to determine an appropriate "Standard Market Design." It seems prudent for the Commission to permit the CA ISO to benefit from the insight gained by the Commission during that process, as opposed to requiring the CA ISO to file a market redesign proposal by May 1, 2002 (as required by the Commission's December 19 Order). As many participants in California have observed, this may be the last opportunity for the CA ISO to "get it right." Subsequent to receiving all comments in this proceeding, the CA ISO implores the Commission to develop a schedule that allows for: 1) the thoughtful and complete development of a market design proposal that is integrated and compatible with the timeline for restoring the California IOUs to financial health; 2) the development and implementation of companion state public policy; and 3) compatibility with market development throughout the West. The CPUC and other California state agencies should establish, and commit to, aggressive schedules to determine the future obligations and requirements of the state's load serving entities, as well as other programs within their jurisdiction (e.g., demand response programs).

The CA ISO believes that should the Commission and others commit to these actions, the balance of the Audit's recommendations and findings (creditworthiness, trust, process, etc.) can and will be addressed in due course. There is no greater confidence builder to market participants and the financial community than regulatory stability and the commitment by state and federal policymakers to concrete actions plan that clearly address the fundamental flaws of a market.

Comments on Audit Findings and Recommendations

Background

On October 9, 2001, the Commission issued a request for proposal to conduct an operational audit of the CA ISO. The Commission selected Vantage Consulting, Inc. ("Vantage") to perform the Audit. The Commission stated that the audit would cover the period from October 2000, to October 2001. Vantage interviewed CA ISO management, staff and Board members, and also examined extensive documentation. Vantage also interviewed numerous market participants, as well as state and federal regulators and policymakers. Vantage submitted its findings to the Commission in January, 2002 and the Commission released the Audit on January 25, 2002. The Audit makes numerous findings and recommendations, and makes five "global recommendations" towards an "integrated broad-based solution to California's electric industry problems." The global recommendations are:

- 1) **Fiscal stability** described as:
 "Re-establish a firm financial foundation that restores confidence and assures cash will continue to flow through the system on a continuous basis even in times of market instability and upset."
- 2) **Jurisdictional Cooperation** described as:
 "Develop among FERC and the various California regulators and agencies, formal policies committed to enhancing cooperation in the design and subsequent oversight of California's electric industry."
- 3) **Process for Interaction** described as:
 "Establish new interaction processes, less bureaucratic and more timely, that balance the needs of all parties with the realities of operating a complex electrical system and associated markets."
- 4) **California ISO's Role** described as:
 "Redefine the role and vision of the CAISO within the new industry structure. Establish governance in accordance with that role. Implement an aggressive program, including culture change, to rebuild credibility and confidence in the CAISO."

5) **Market Design** is described as:

"Assure that there is an effective stakeholder process available to provide meaningful input to the market redesign effort."

The Audit also makes a number of specific findings and recommendations. The

CA ISO responds to each of the specific findings below.

Comments on Specific Findings and Recommendations of the Audit

Findings Regarding Governance and Independence

The Audit found that the current Governing Board is not independent and that it is not the appropriate Board for the CA ISO going forward. Specifically, the Audit found that:

The current BOG has served its purpose during the recent crisis, however it is not the appropriate governing body going forward. (Finding III-F7); and

Despite the best intentions of the new BOG to be fair and independent, the net result of their inception was a loss of independence by the CAISO. (Finding III-F8).

The Audit stated that:

One of the Linchpin issues that needs to be resolved is governance of the California ISO, and the perception of an inherent lack of independence... This is clearly the root cause of many other communication, culture and trust problems. Until it is resolved, there is no hope for a comprehensive solution.... Despite the best intentions of the new BOG to be fair and independent, the net result of their inception was a loss of independence by the California ISO.

The Audit recommended that:

Establish a new and Independent Board of Governors, along with a formal Stakeholder Committee. (Recommendation III-R1); and

Develop a plan for creating an independent board that meets all needed criteria (Recommendation III-R2)

CA ISO Comments

The CA ISO does not offer any comments on the future structure and function of its Governing Board, nor the timing for creating a new Board. The CA ISO believes that these are matters for federal and state policymakers to decide. However, the CA ISO does offer the following comments on the function and performance of the existing Governing Board. The CA ISO agrees with the Audit's findings that the current Board "served its purpose" during the recent crisis. More pointedly, the CA ISO believes that its existing Board functioned effectively during the recent crisis and provided a stable platform from which management could perform its day-to-day responsibilities.

The audit also implied, in part, that the new Board lacked expertise in the energy industry. To the contrary, CA ISO management found that the Board quickly came to understand the complex environment in which the CA ISO functioned, and performed with an appropriate balance of deference and guidance. Moreover, to state that the Board lacked expertise is simply not true. For over twenty years prior to his appointment, the Board Chair worked extensively in numerous phases of the energy business. More recently, the Board Chair was the Chair of the California Electricity Oversight Board, the founding Chair of the California Green Energy team, and an active participant in dealing with all aspects of the State's electricity crisis. In addition, two of the Board's other members are, and have been, active participants in the energy market – one as a consumer representative on state and federal electricity matters and another through his leadership of a major energy-intensive manufacturers association.

Finally, the CA ISO offers certain limited comments regarding the notion of independence. While "independence", however defined, is critical to establishing trust

in an organization, the Audit fails to address how states can have a legitimate and meaningful role in governance going forward. States most likely will feel the need, if not obligation, to engage (and be engaged) on these matters. Since inception, the purpose of the CA ISO has been two-fold: 1) ensure open, non-discriminatory transmission service, consistent with the public interest, as a public utility under the Federal Power Act; and 2) serving a public purpose as a private, California state-chartered nonprofit public benefit corporation, and reducing the burdens of state government as an organization exempt from federal income taxation under Section 501(c)(3) of the Internal Revenue Code. In terms of CA ISO actions, up until the crisis of 2000-2001, this duality had not been cause for concern. The CA ISO believes that, going forward, this dichotomy is not in conflict – the public interest is, after all, the concern of both federal and state policymakers and regulators. The CA ISO urges the Commission to forge a partnership with states that results in a “win-win.”

Findings and Recommendations Regarding DMA’s Independence, Organizational Placement, and Performance

The Audit found that many market participants had concerns with the CA ISO’s Department of Market Analysis (“DMA”), specifically with respect to its perceived lack of independence and its location within the CA ISO organization. Specifically, the Audit found that:

Many stakeholders believe the Department of Market Analysis (DMA) is, at a minimum, not independent, and at the extreme, co-opted by management, the BOG, and the Governor. (Finding III-F14); and

Due to its location in the CAISO organization, the DMA cannot easily bypass management and report its findings to the CEO, Board, or FERC. (Finding III-F15).

Among other things, the Audit found that:

Although many of those interviewed felt that the DMA was staffed with highly professional personnel that are well intentioned, there was a concern regarding the independence of DMA. It is difficult, however, to measure this feedback because many of those we spoke with are in the midst of litigation with the CAISO over huge sums and the DMA is a primary analytical and litigation support tool in these cases. Invariably the other parties would raise the issue of how could the DMA maintain its independence while at the same time supporting the CAISO's litigation positions in complaints before the FERC. The DMA's normal reporting relationship is through the General Counsel. The DMA cannot easily circumvent this reporting relationship and go directly to the CEO, Board, or FERC with the results of its analysis and evaluation of the electricity markets in California. Further, the channels of communication with the FERC are not currently as open as the Director would like.

The Audit recommended that:

Define in very certain terms the role of the Department of Market Analysis (DMA) and strengthen its independence by implementing procedures permitting it to bypass its regular reporting relationship and report directly and simultaneously to the CEO, the BOG, or FERC. (Recommendation III-R3)

CA ISO Comments

A core function of the CA ISO is to ensure reliable, open, and non-discriminatory transmission service to all customers. The CA ISO satisfies that objective by, in part, facilitating certain discrete markets. In order to ensure that such markets function efficiently and produce incentives that support reliable operation, the CA ISO must monitor and enforce compliance with established market rules. Every market to some extent is founded on trust. In the absence of a legitimate effort to apply rules evenhandedly to all parties, markets lack credibility and are prone to producing unfair results.

The mission of the CA ISO's DMA is to ensure that the CA ISO's markets function efficiently and are not prone to abuse. The DMA plays a critical role in

assisting management and offering vital expertise toward carrying out the above objectives. In this respect, its "independence" is, and should be, no different from that of the organization as a whole. DMA should be free of conflicts and improper influence by participants in the CA ISO's markets. "Independence," however, does not mean, as suggested by some, that DMA must be set apart from Management and the rest of the organization. Rather, the CA ISO believes that, as it currently functions, DMA must remain an integral part of the organization. If the CA ISO as a whole is to fulfill its primary core functions, it must be able to call upon the services of DMA and to direct its resources. The one exception to this conclusion is, of course, where DMA discovers instances of misconduct by the CA ISO, in which case it must, and does, have the authority and obligation to report these discoveries outside the organization. A contrary conclusion would leave Management powerless or at least severely disabled in its efforts to develop and advocate policies it believes are necessary to the proper functioning of the systems and markets under its care. Moreover, the CA ISO is unaware of any instance where CA ISO Management, or the Board, has prohibited the DMA from issuing a report or finding on a matter. Thus, while perception is important, the CA ISO's DMA has and continues to function "independently" and without restraint from CA ISO Management.

In addition, the Audit raises concerns regarding the "ease" (or lack thereof) with which the members of DMA can circumvent their immediate reporting relationship with the General Counsel and present their concerns to the CEO, the Board, and the Commission. However, the Audit fails to reference a single instance in which the

concerns cited have ever emerged under the current reporting relationship.³ Nor could it, since the facts are to the contrary. In fact, the Director of Market Analysis speaks directly with the CEO (with or without the knowledge of the General Counsel) on average twice a week. In addition, she reports directly to members of the Board at virtually every Board meeting. DMA staff, like the rest of CA ISO staff, remains available to address any questions or concerns raised by Board members between meetings (and a number of Board members have availed themselves of this opportunity). Additionally, DMA staff regularly raises issues with FERC staff, on an as-needed basis, without having the information filtered by the General Counsel. There has not been a single instance in which the current General Counsel has made substantive changes to any proposal by DMA or prohibited a report from being made. In short, the concern with the current organization cited by the Audit is at best theoretical and is at odds with the facts. However, that being said, the CA ISO is not opposed to adding additional clarification to DMA's reporting relationships, as currently defined in the CA ISO Tariff, to provide confidence that DMA can report directly on a matter to the CEO, the Board, and the Commission.

The CA ISO also disagrees with the implication in the Audit, based on comments by market participants, that DMA's involvement in the Commission's refund case is somehow at odds with its core mission and independence. In fact, analysis of and determinations regarding the exercise of market power are clearly within DMA's purview. The exigent circumstances of the California electricity crisis have quite predictably fostered an atmosphere of mistrust – that should be no surprise when

³ The Audit erroneously asserts that DMA, until mid-2000, reported to the Vice President of Grid Operations. In fact, DMA, from the CA ISO's inception, has always reported to the General Counsel.

billions of dollars are at stake. However, to think that DMA, or any other market monitoring body, could somehow avoid or disengage from the ongoing fact-finding/litigation process is unrealistic and at odds with the market monitoring function defined for RTOs in the Commission's Order 2000. If the DMA had failed to express an opinion on these matters, it would have failed to do its job.

Findings and Recommendations Regarding the Market Surveillance Committee

The CA ISO Tariff currently provides for the establishment of a "Market Surveillance Committee" ("MSC"). As stated in the CA ISO Tariff, the purpose of the MSC is to provide independent external expertise on the CA ISO market monitoring process and to provide independent expert advice and recommendations to the CEO and Governing Board. The members of the MSC fall outside any internal CA ISO reporting relationships and have access to the same set of data that is available to DMA. Until recently (see discussion below), the MSC has been quite active in analyzing data and publishing reports. When possible given the content of the discussion, it traditionally has opened its meetings to the public and made itself available to receive comments, concerns and requests from market participants and other interested parties (as well as the Commission).

CA ISO Comments

The CA ISO agrees with the Audit's finding that the MSC's effectiveness has been weakened lately due to current vacancies. At the behest of the Board, management is in the final stages of screening additional candidates and anticipates that appointment(s) to the MSC will be made at an upcoming Board meeting. The CA ISO believes that once the MSC is again fully constituted, it will be in a position to meet

stakeholders' and the Commission's demand for "independent" (external) oversight of the CA ISO's markets.

Findings Regarding Communication Between DMA and the Commission

CA ISO Comments

The CA ISO concurs with the Audit's finding that communications between DMA and Commission staff could benefit from a more formal structure. Currently, when DMA identifies an issue, it is not always clear to whom at the Commission the issue should be referred. Additionally, despite increased reporting obligations to the Commission in recent months, DMA has received few inquiries and very little feedback from Commission staff concerning its reports. DMA would appreciate, and the CA ISO recommends, the assignment of one or more Commission staff members to serve as a primary contact (or contacts) for receiving and responding to communications received from DMA staff. Additionally, DMA believes that the scheduling of regular conference calls and meetings among its members and Commission staff would be beneficial.

Findings Regarding Regional Scope

The Audit also finds that the scope and function of both the DMA and MSC should be reexamined to determine if the scope of market monitoring should be extended to the entire West.

CA ISO Comments

The CA ISO supports this finding and recommendation. First, as was clearly evident from the 2000-2001 electricity crisis, the entire West functions as one market and effective monitoring and oversight requires analyzing the entire Western market. Second, the CA ISO has been engaged in active discussions with representatives of

RTO West, WestConnect, and other market participants regarding the appropriate level of West-wide market monitoring activities.

Findings Regarding ISO Mission

The Audit found that the CA ISO's mission statement fails to reflect an appropriate role for the CA ISO. Specifically, the Audit found that:

The current mission of the CAISO does not meet the requirements of the current California energy markets. (Finding III-F17).

The Audit stated that:

With the arrival of the current Board of Governors, the mission of the California ISO was modified "to provide safe, reliable electric transmission services to all Californians within its control at the lowest reasonable cost." Put simply, while the role of a system operator should be to maintain reliability and to facilitate functional, competitive markets, the current California ISO mission statement, which emphasizes 'least cost,' smacks of command and control approach more akin to a regulatory body operating in a regulated industry than an independent system operator.

Based on those findings and observations, the Audit recommended that:

Modify the mission of the CAISO to reflect an appropriate role in the electric market of California and the west. The CAISO should have a broader and clearer vision. The previous vision's vague reference of reliability through markets does not clearly articulate the role of the CAISO in developing and maintaining a robust, transparent market for electricity. (Recommendation III-R5).

CA ISO Comments

The CA ISO agrees to reexamine its mission statement and to identify modifications that may better reflect the CA ISO's role in the Western electricity market. The CA ISO believes, however, that cost considerations are appropriately reflected in the CA ISO's mission statement. The CA ISO is a public utility under the Federal Power Act and therefore functions within a public interest paradigm. In addition, the CA ISO, as a California not-for-profit

corporation, was created to foster a “public purpose”, with the additional requirements as a 501(c)(3) organization under federal law to “reduce the burdens of state government” and, thereby, has a legitimate role with respect to the efficient functioning of the electric markets and an obligation to create an environment that promotes just and reasonable prices.

Findings and Recommendations Regarding Process and Culture

The Audit made a number of findings with regard to the CA ISO’s internal and external processes. Specifically, the Audit found that:

Operation of the California electric system and the associated markets has, in many cases, become an elaborate legal process rather than a business and electric utility operations process. (Finding III-F18);

The problems of the past two years have contributed to an internal culture within the CAISO that is not fully compatible with the effective execution of its mission. (Finding III-F19);

The CAISO’s relations with SCs are such that many would rather not do business with the CAISO, and those with a choice have indeed withdrawn. (Finding III-F20); and

The CAISO does not provide sufficient visibility and transparency with respect to much of its workings, including market decisions, operations and market analyses. (Finding III-F21).

Based on these findings, the Audit recommended that the CA ISO:

Implement specific management programs to change the culture and processes at the CAISO so that they address the needs of stakeholders. (Recommendation III-R6).

Improve communication between FERC and CAISO by increasing on-site presence and facilitation of communications with stakeholders. (Recommendation III-R7).

Establish formal procedures for following up on the findings and recommendations from the operational audits and other formal audits and reviews. (Recommendation IV-R1).

Conduct further analysis into the benchmarking data and develop specific action plans to address those areas of high cost (Recommendation IV-R2).

In concert with users and in coordination with overall corporate business plans, develop a formal strategic IT plan. (Recommendation IV-R3).

CA ISO Comments

As noted earlier in these comments, the electricity crisis of 2000-2001 and its aftermath has certainly lead to an erosion of trust between the CA ISO and its market participants. The CA ISO recognizes that there is a need to rebuild the relationship between the CA ISO and its customers. However, the fact that the CA ISO operations have become a “complex legal process”, as stated by the Audit, is more a consequence, or symptom, of the market failing than a flaw in the CA ISO's processes. More than anything, the fact that market participants were not getting paid and that price signals and CA ISO operations were opaque, at best, are the reasons for the dissonance cited. However, that being said, the CA ISO clearly recognizes that better price and operational transparency will increase confidence in the CA ISO's operating actions and instructions and remove the need for legal maneuvering on the dispatch floor. That is, the challenge for the CA ISO is to send more accurate and meaningful real-time price signals so that market participants will have confidence that the price signals established by the CA ISO are fully consistent with the operating instructions given by its operators. The CA ISO recognizes that, at times, the operating instructions given by the CA ISO are at odds with the price signals because of the state of the California market. The CA ISO believes that this disconnect is in part a consequence of

the CA ISO's complex market design, rules and mechanisms. The CA ISO is committed to resolving these issues as part of its MD02 effort.

In addition, in order to ensure clearer communications between the CA ISO and its market participants, the CA ISO has initiated the following activities:

- In the Fall of 2001, the CA ISO initiated visits with all major generators to improve communications and understanding of certain issues. Moreover, Market Operations personnel attended these meetings in order to further internal understanding of market participant issues;
- The CA ISO is establishing a more structured informal communications process with market participants. The purpose of this effort is to attempt to discuss compliance issues directly with generators (and to understand them better) before notifying FERC. This will be enhanced during 2002 with weekly discussions with generators regarding performance issues and market issues.
- As part of its MD02 stakeholder process, the CA ISO unveiled a new approach that it hopes will facilitate meaningful discussions with market participants. On January 14-17, the CA ISO sponsored four targeted meetings to allow stakeholders to review the Preliminary MD02 proposal. Targeted audiences included Load Serving Entities (LSEs), Generators and Marketers (G&M), Vertically-Integrated Utilities (VIUs) and Importers and Other Control Areas (I&OCA). Over 100 persons from about 75 organizations (in addition to CA ISO personnel) attended these meetings in person while another 120 participants from over 75 organizations participated by conference call. Participants included the targeted Focus Group market sectors as well as State regulatory personnel, State legislative staff and FERC staff. In addition, the CA ISO has received written comments from over 30 organizations.

The CA ISO is committed to undertaking a major initiative in 2002 to improve relationships and communications with stakeholders. As part of the CA ISO's annual customer satisfaction survey process, a specific action plan will be finalized by April 15, 2002. The CA ISO believes that the subject of culture change is one of better communication and mutual understanding.

With respect to the Audit recommendation that the CA ISO increase on-site facilitation by FERC, the CA ISO recognizes that stakeholders viewed the September 24-25, 2001 FERC technical workshop in Folsom as a constructive forum, and that the

commitment of FERC staff improved the understanding of certain contentious issues. Moreover, the CA ISO takes seriously the admonition of market participants to work with Commission staff to arrange similar sessions. The CA ISO agrees and will pursue such discussions with Commission staff. The CA ISO is concerned however that market participants not rely exclusively on these types of forums to address concerns and that they maintain an active dialogue with the CA ISO. The CA ISO recognizes that Commission staff's resources are limited and that their time is valuable.

The Audit recommends that the CA ISO implement more formal procedures to follow up on the findings and recommendations of formal operational and other audits. The CA ISO believes that such procedures are already informally in place. The CA ISO agrees to more formally codify in its procedures the process for ensuring that the results and recommendations of its established audits are addressed.

The Audit also recommends that the CA ISO conduct further benchmarking studies and analysis and to develop action plans to address areas of high cost. The CA ISO is in the process of conducting additional benchmarking analysis. The CA ISO regularly participates in coordinated benchmarking efforts among established ISOs and grid operators worldwide. While the CA ISO believes that these efforts are worthwhile, the CA ISO cautions that often direct comparisons are difficult, if not impossible, in light of the different functions/services that each organization provides. However, the CA ISO is extremely sensitive to the perception that it is a high-cost organization and continually implements efforts to address these legitimate cost concerns. As an organization, the CA ISO has identified cost reduction as a primary going-forward objective and has proposed to explicitly incorporate that goal into its corporate goals for

2002. Last year the organization was successful in saving approximately \$13 million from its projected budget.

Finally, the Audit recommends that the CA ISO develop, in concert with users, a formal IT strategic plan. As the Audit recognizes, the existing IS department has been reorganized to better align its services with the needs of the CA ISO's business units. As part of that reorganization, the IS department intends to develop a formal strategic plan by the end of the second quarter on this year.

Findings Regarding Market Design Issues

The Audit made a number of findings and recommendations regarding necessary reforms to the CA ISO's markets. The Audit found that:

The operational and Market Issues identified [in the Audit] should be given careful consideration in efforts to redesign markets. (Finding IV-F31);

Comprehensive market reform is necessary to restore viable, transparent electricity markets in California. (Finding IV-F30);

To develop a viable comprehensive market reform, it will be necessary to first revitalize an effective stakeholder process. (Finding IV-F31);

There is broad agreement that CAISO would be better served if all LSEs were required to procure adequate capacity reserves. (Finding IV-F32);
and

The structure of the current market design is overly complex and leads to many operational, communications and cost issues. (Finding IV-F33).

The Audit stated that:

There is broad support for the notion that market redesign is a high priority problem in California and is deserving of immediate attention. The efforts of the CAISO are, therefore, to be applauded, yet the success of the effort faces significant challenges. Consider the dysfunctional processes now in place for stakeholder input; the lack of trust and credibility in the CAISO by its stakeholders; continued disagreement on the fundamental principles of market design; the overwhelming complexity of the current design and the perception that any changes are merely band-aids that increase complexity even more; and legitimate questions on the roles of various

players. These challenges to the successful implementation of a new market design should not be underestimated. It is for this reason that we suggest that the market redesign, although of high priority, may nonetheless be somewhat premature. A stronger foundation needs to be in place before the sweeping changes needed in the design of the market can be effectively developed and implemented. This foundation must include the restoration of the CAISO's credibility, a renewed stakeholder process and agreement on fundamental design principles. To proceed with the proposed aggressive schedule without the proper foundation has a strong potential for stakeholders to feel as if the process has been forced on them. Their likely recourse will be a legal reaction, further delay, and another setback to re-establishing an effective stakeholder process and CAISO credibility. To the extent the aggressive schedule is driven by regulatory deadlines, reasonable extensions should be pursued which permit a reasonable stakeholder process.

As a result of these findings and observations, the Audit recommended that the CA ISO should:

Develop an approach to accomplish a comprehensive market reform that includes effective input from stakeholders. (Recommendation: IV-R10).

CA ISO Comments

The CA ISO generally agrees with the Audit's findings and recommendation.

Most importantly, the CA ISO agrees that any market reform effort must be built upon a strong foundation and include effective input from stakeholders. While the Audit references the need for restoring CA ISO credibility and a renewed stakeholder process, with which the CA ISO agrees, the CA ISO also believes that more fundamental issues must first be resolved. As noted above, a comprehensive and highly-coordinated effort must be undertaken by state and federal policymakers to ensure that the fundamental failings – lack of generation, transmission and price responsive demand – are addressed. Only then can California's investor-owned utilities return to financial health. Finally, the Commission must ensure that adequate market power mitigation measures are in place throughout the transition to a stable market.

The CA ISO is concerned that too much emphasis has been placed on its own market redesign effort and that there has not been sufficient recognition that many parties must and will have a role in implementing necessary and effective reforms in the California electricity market. Therefore, the CA ISO agrees with the Audit's recommendation that reasonable extensions of regulatory deadlines may be necessary.

As noted above, the CA ISO has initiated a MD02 effort to redesign its markets. Many, if not all, of the findings and recommendations contained in the Audit have been incorporated into the MD02 effort and identified as goals. As part of the MD02 effort, the CA ISO will employ the new, more focused, stakeholder process and will shortly initiate other efforts to improve communication between the CA ISO and its stakeholders.

Moreover, the CA ISO has identified as an objective of its MD02 effort the need to simplify the CA ISO's markets and make them more transparent. As part of that effort, the CA ISO has examined practices and methods successfully used in other ISOs. The CA ISO also plans to address and fix certain of the market design flaws previously identified, but left unaddressed, that contributed to the recent crisis. Specifically, the CA ISO proposes to develop and implement a congestion management system that utilizes a full (detailed) network model and security-constrained economic dispatch with locational marginal pricing. The CA ISO believes that use of such a model and pricing will greatly enhance both market and operational transparency by revealing previously masked transmission congestion and reducing the need of operators to dispatch resources "out of sequence" to address such congestion. Finally, the CA ISO has included, as a critical feature of its draft market design proposal, a requirement for

load serving entities to procure and make available to the CA ISO adequate capacity (See Audit Finding IV-F32).

Findings Regarding Generator Conduct

The Audit found that the 2000-2001 electricity crisis not only damaged the perception of the CA ISO, but also found that other parties were equally affected. Specifically, the Audit found that:

Public perceptions have damaged the image of the generators and, therefore, the public's confidence in the market as a whole. (Finding IV-F34).

The Audit stated that:

In a mature industry, firms can make a great deal of money in times of scarcity or stress; indeed, scarcity pricing, driven by a shortage of supply and/or excess of demand, can provide the economic signal for new investment which can alleviate supply shortages over the long haul. Yet, in a mature industry, firms are also prudent enough to apply a degree of self-discipline. This line of thinking is prevalent on several levels. First, and most simply, it makes little sense to "kill the goose that lays the golden eggs" (and many would argue that is precisely what has happened in California). Second, the players, both consumers and otherwise, have a long memory. When offending firms need help in the future, they would like to get a sympathetic ear. And finally, all firms want a positive image with the public, recognizing that long-term success and a negative public image simply do not go together.

The Audit recommended that the CA ISO:

Pursue additional steps at FERC to prohibit generating companies from engaging in any anticompetitive behavior. (Recommendation IV-R11).

CA ISO Comments

The CA ISO agrees with the Audit recommendation. The CA ISO firmly believes that a necessary and critical overlay to any market redesign effort is effective market power mitigation measures. As part of its Market Redesign 2002 effort, the CA ISO is placing primary emphasis on the identification and development of effective market power mitigation tools. As noted earlier in these comments, the CA ISO believes that

the Commission must ensure that adequate market power mitigation measures are in place at all times.

Findings Regarding Public Power Issues

The Audit included a number of findings with regard to public power participation in the CA ISO's markets.

The public power sector, which represents a substantial amount of California supply, load, and transmission, should be an integral part of any industry design that purports to optimize California's resources. (Finding IV-F35).

The Audit stated that:

In past years, extensive discussions have taken place to accommodate public power as a part of the CAISO grid, but all have failed. Varying reasons for this failure have been offered, including private use restrictions, local control issues, turf and philosophical issues, load curtailment policies, and compensation for transmission. On balance, however, it appears that the economic incentive for broad municipal participation in the CAISO has simply not been there. It will be noted that other jurisdictions included within the western markets enjoy strong public power participation in their regional activities. This, combined with positive feedback from public power people, lends encouragement that a California solution can be found that will adequately compensate the municipals, protect their customers, and improve the overall effectiveness of California's electric system. In the meantime, the gulf between the CAISO and the municipals should be considered a serious flaw in the California system.

Based on these findings, the Audit concluded that the CA ISO should:

Re-initiate efforts in future market design to bring public power into the fold of an integrated California solution. (Recommendation IV-R12).

CA ISO Comments

The CA ISO agrees with the Audit recommendation. First, the CA ISO notes that a number of municipal utilities, and governmental and federal agencies already participate in the CA ISO structure as Scheduling Coordinators, Participating Transmission Owners, Utility Distribution Companies, and

Participating Generators. However, from a market design perspective, the CA ISO recognizes the importance of designing a system that accommodates the needs of municipal customers, as well as all vertically integrated utilities. As part of its MD02 effort, the CA ISO has expressly adopted as an objective of that effort to create a menu of services that recognizes the unique requirements and needs of each of the CA ISO's customers. In addition, the CA ISO has already engaged the municipal utilities in discussions whose purpose is to develop a comprehensive proposal that will provide the municipals the "tools" they need to function as part of the CA ISO's markets.

Findings and Recommendations Regarding Financial Stability

The Audit made a number of findings regarding the financial state of the CA ISO, the IOUs and the market as a whole. Specifically, the Audit found that:

Since the appointment of the current Board of Governors, the CAISO has not had a CA ISO Audit Committee in place, and there is currently no direct reporting mechanism between the Controller's office and the Board (Finding IV-F25);

Based on these findings, the Audit concluded that the CA ISO should:

Implement efforts to return the CA ISO to a creditworthy level (Recommendation IV-R4);

Support financial and creditworthiness restructuring activities vis-à-vis SCE (Recommendation IV-R5);

Implement a short term means for PG&E to return to creditworthiness (Recommendation IV-R6); and

Establish a direct reporting relationship between the Controller's office and the Board of Governors (Recommendation IV-R8).

CA ISO Comments

The CA ISO agrees that the CA ISO's, PG&E's, and SCE's return to creditworthy status is a necessary predicate to restoring confidence in and stabilizing the market.

However, while the CA ISO is committed to expending every effort to contain its own costs and support the IOU's return to creditworthy status, the CA ISO does not believe that it can greatly influence or affect the outcome of this process. The CA ISO's ability to conduct its markets/operations is directly related to California Energy Resource Scheduling's (CERS) ability to fund or back IOU activities in the CA ISO markets.

It is unfortunate that the CA ISO, despite meeting all of its corporate and financial obligations in full and on-time throughout the crisis, has been subject to the same compromised credit rating impact as the defaulting IOUs. On a long-term basis, however, the CA ISO's creditworthiness is directly tied to that of the IOUs. Thus, re-establishment of the long-term creditworthiness of the IOUs is an essential step for the CA ISO to again be viewed as creditworthy. The CA ISO can and will work with all parties, including the financial agencies, to develop and maintain long-term liquidity in the California electrical markets.

In addition, while it is important to focus on the return of the IOUs to financial health, the CA ISO believes that going forward, it is necessary to ensure that the new market structure never exposes large quantities of load to the volatility of spot market electricity prices. Moreover, the CA ISO has also begun to explore the use of higher credit standards and increased use of security deposits as measures to ensure creditworthiness in the CA ISO's markets.

Although the Controller presents information at each monthly Board meeting, the CA ISO acknowledges that a more formal process should be established between the Controller and the Board. However, the CA ISO notes that the findings indicate that all required audits were completed under the current Board.

Findings and Recommendations Regarding CA ISO Settlements

Based on market participants concerns regarding the complexity of the CA ISO's settlements system, the Audit made the following findings:

The volume of transactions has resulted in a higher level of staffing for client services, including the settlement function, than at other ISOs. (Finding IV-F20);

Manual settlement transactions add a level of vulnerability to the settlement process. (Finding IV-F21).

Based on these findings, the Audit concluded that the CA ISO should:

Simplify the settlements process as part of an overall market redesign. (Recommendation IV-R7).

Enhance control over off-line calculations in the settlements process. (Recommendation IV-R9).

CA ISO Comments

The CA ISO believes that the findings of the Audit are, for the most part, valid and correct and that the recommendations are appropriate. A primary objective of the CA ISO's MD02 effort is to make the markets more predictable and transparent and thereby provide transparency to the settlement process. The CA ISO believes that by increasing both price and operational transparency as part of its MD02 effort, the CA ISO will eliminate certain of the confusion and concern over CA ISO operations and settlements.

The CA ISO is unclear as to what is meant by the statements attributed to participants that the CA ISO "refuse(s) to share metrics." Other statements in the Audit allege that the CA ISO continuously changes its rules, that changes are implemented too fast and retroactively, without publication. The CA ISO is concerned about these

statements. The CA ISO generally notifies the market, via a market notice, in advance of bringing settlement changes into production.

In terms of the number of manual workarounds, the CA ISO has already begun to address that issue by following the recommendation of the CA ISO's SAS 70 audit to put additional controls on our manual work-arounds. Further, two teams have been established to study settlements simplification, one as part of the MD02 effort and another reviewing the current settlements operation. Both of the settlements simplification efforts are designed to work in concert with the market redesign to identify areas where the market design creates settlement complexity and to determine if the complexity is necessary. Furthermore, there is approved capital in the 2002 budget to automate manual work-arounds, which should serve to reduce the "level of vulnerability to the settlement process." Finally, it should be noted that while the CA ISO can and will take steps to significantly reduce the number of manual workarounds, manual workarounds are a necessary consequence of unanticipated changes in design, or to accommodate the requirements of entities within California that are not part of the system under the CA ISO's control.

Conclusion

The CA ISO acknowledges and appreciates the tremendous effort and resources expended by the Commission and its staff over the past several years in addressing matters regarding the California energy market. Without question there is much work still to be done – both to address the issues raised in the Audit and, more importantly, to address the root causes of the recent crisis. The CA ISO firmly believes that if those efforts are to be successful, the Commission must quickly establish a deliberate plan of

action and schedule that systematically addresses the core deficiencies of the California market. Of equal importance, the Commission must ensure that fail-safe market power mitigation measures are in place in the California market until there is a demonstrably competitive market. The CA ISO beseeches all parties to work together to forge a partnership built upon trust and the belief that we are all working towards a common vision – that of an electricity market that delivers dependable and affordable power for all consumers. The CA ISO accepts that challenge and stands ready to do its part. The CA ISO appeals to the Commission for continued leadership on this most Herculean endeavor.

Respectfully submitted by:

Terry M. Winter
President and Chief Executive Officer
California Independent System
Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630
(916) 608-7147

Dated: February 15, 2002



CALIFORNIA ISO

California Independent
System Operator

February 15, 2002

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

**Re: Operational Audit of the California Independent System Operator
Corporation
Docket No. PA02-1-000**

Dear Secretary Salas:

Enclosed for electronic filing please find The California Independent System Operator Corporation's Comments on the Commission's Operational Audit of the CA ISO in the above-captioned docket.

Thank you for your assistance in this matter.

Respectfully submitted,

Margaret A. Rostker
Counsel for The California Independent
System Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630
(916) 608-7147

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the California Independent System Operator Corporation's Comments on the Commission's Operational Audit of the CA ISO upon each person designated on the official service list compiled by the Secretary in the above-captioned dockets.

Dated at Folsom, California, on this 15th day of February, 2002.

Margaret A. Rostker
Counsel for The California Independent
System Operator Corporation
151 Blue Ravine Road
Folsom, CA 95630

Mr. OSE. Mr. Drom and Mr. Drabinski, would you please rise so I can swear you in?

[Witness sworn.]

Mr. OSE. Let the record show that the gentlemen answered in the affirmative.

Mr. Drom, if you could summarize, 5 minutes.

Mr. DROM. Yes, thank you.

Good morning. I am not an expert on the California ISO governance, and I am not an expert on the California market design. However, I think some of the things that PJM has accomplished in the last 5 years can help to understand what good governance is and what an effective market design is. So, I'd like to talk a little bit about governance and market design in that context.

Governance really has a number of factors, and I mention them in my paper, I'll just review them. You have to get the right people in the governance. You have to make sure that they have explicitly defined fiduciary obligations, and you have to develop appropriate practices and procedures to govern their actions. And there is a fourth factor that I didn't mention that I'd like to also have, because I kind of assumed it, but I didn't realize other organizations are different than our's. Very strong stakeholder input is essential to good governance. We have a members committee that consists of every single member, we have over 200 members now. They all participate and they are entitled to participate in all the committees, and including the members committee, which is our most important voting mechanism, which endorses or approves all the major changes before PJM files them. So, those four elements are critical.

Let me just give you a quick example of how they work together in reality. Back in 1997, when PJM was approved as an ISO, one of the conditions was that we form a market monitoring unit that wasn't part of our original filing. So, we worked with our stakeholders during a 5-month process, developed with them effective mechanisms that everyone could buy into. Then at the last minute our members said you must file the mechanisms as part of the operating agreement, rather than part of the tariff.

Now, as a lawyer, I immediately realized that in the operating agreement members have a two-thirds vote in order to change it, whereas the tariff PJM has unilateral control over it to make changes. So, we talked to the board members, and the board had a real gut check and they rejected the will of the members. They filed it as part of the tariff, because they felt that fiduciary obligations of maintaining a robust and competitive marketplace required that they have control over the market monitoring unit changes, as it evolved over time.

FERC, within 60 days, approved our filing and agreed that it should always be in the tariff, not in the operating agreement. But, that's an example, a real world example, of where the board has to look at its fiduciary obligations, look at the will of the members, and then do what's right, not necessarily what's politically popular.

Our board has made a number of decisions, luckily not many, about four in the last 5 years, where our members were not in favor of our steps. In each case, FERC promptly approved our ac-

tions and said we did the right thing. So, we have a history of working with our members, but also being independent.

One of the phrases that Phil Harris uses a lot is, when the arrows in the front equal the arrows in the back, you know you are doing a good job. One thing that PJM's board is very proud of, is that we look at the arrows from all directions before we take a course of action.

Second, market design, I'm a lawyer, not an engineer, so I can't go into detail, but the essential elements in an effective market design, first of all, is information transparency. We need real information, under real time, to create real markets. Phil calls that the three Rs. And, it's essential to our business, is that information be available to all the participants so they can make the right business judgment in the competitive marketplace.

Second, you have to give customers as many choices as possible. We believe that a marketplace is only effective if customers can do different things to achieve their objectives, rather than being forced in a single line to all do the same thing. We believe in giving people options. For example, when you meet your load obligations at PJM you can self-schedule your generation, you can do bilaterals with a third party, or you can buy and sell on the spot market. On a daily basis you can change. Because of this robustness, we think the market is more effective than it would be otherwise if everyone was arbitrarily forced, for example, to buy or sell off the spot market, or to do bilateral contracts.

In addition, you have to make sure you have a sufficient information technology to enable customer choices and make sure this real information gets to the parties. We are very proud of our Internet Web site activities, which a lot of the customers can individually utilize, and PJM can step back and monitor the process, rather than a command and control mechanism, that might get involved in too much detail in the process.

Finally, I think in order to have an effective market design, you have to have the trust of the marketplace, and that's one thing that our Code of Conduct emphasizes. We work very hard to maintain the trust of our consumers with integrity, communication, accountability, respect and excellence, our five core values.

Thank you.

[The prepared statement of Mr. Drom follows:]

**TESTIMONY OF RICHARD A. DROM
VICE PRESIDENT GENERAL COUNSEL
PJM INTERCONNECTION, L.L.C.**

**HEARING ON CAISO GOVERNANCE AND PRINCIPLES OF
ELECTRICITY MARKET DESIGN**

**SUBCOMMITTEE ON ENERGY POLICY, NATURAL RESOURCES
AND REGULATORY AFFAIRS, COMMITTEE ON GOVERNMENT
REFORM
UNITED STATES HOUSE OF REPRESENTATIVES**

FEBRUARY 22, 2002

Good morning. My name is Richard Drom. I am the Vice President and General Counsel of PJM Interconnection, L.L.C. ("PJM"), the nation's first fully functioning regional transmission organization. PJM has operated as an Independent System Operator ("ISO") since April 1, 1997. PJM operates the largest competitive electricity market in the world, serving over 8% of the U.S. population with approximately 200 entities participating as Members of PJM. PJM also ensures the reliability of the electric power grid in a five - soon to be seven - state region including all or parts of New Jersey, Pennsylvania, Delaware, Maryland, Virginia, D.C., West Virginia and Ohio.

The critical test is the test of use. In the PJM region, restructuring of the wholesale electricity industry has worked to deliver real value to over 21 million citizens. During the year 2000, PJM spot market prices were below \$100/MWH 99% of the time and more than 71% of the time PJM's prices were less than \$30/MWH. New investment in this capital-intensive industry is flocking to PJM's region. Over 140 new generating projects have been announced which would add over 40,000 MW of generation to the Mid-Atlantic region, as well as over \$700 million in new and upgraded transmission investment. PJM was recently designated by *Business Week* magazine as one of the top 50 businesses in the United States successfully integrating Internet technologies -- the only utility to receive such designation. Moreover, the state of Pennsylvania has been recognized as a leader in retail competition design as a result of its retail electricity restructuring plan, one that PJM worked hard to support and facilitate.

Background/Qualifications:

I grew up in California, graduated from the University of California, San Diego, received a Masters degree in Systems Management from the University of Southern California, a law degree from the University of Southern California Law Center, and practiced law in California for over eight years. I have been an energy lawyer for approximately 22 years. I am the longest serving General Counsel of any ISO and I have been intimately involved with the formation and evolution of PJM since 1997.

However, I am not an expert on the California Independent System Operator ("CAISO"), its current governance structure or CAISO's existing market design. Nonetheless, my experiences with PJM have provided me with valuable insight into the elements that are required to produce effective ISO governance and to achieve a successful market design. My testimony will focus on PJM's experience, which may be useful in analyzing the issues facing CAISO.

Elements of Effective Governance:

PJM has been coordinating wholesale transmission activities since 1927. However, in 1997 the participating transmission utilities in the PJM region filed an Operating Agreement and related agreements with the Federal Energy Regulatory Commission ("FERC") to establish a new limited liability company, PJM Interconnection, L.L.C., as the Mid-Atlantic region's ISO. The PJM Operating Agreement mandated the establishment of an independent Board of Managers to oversee PJM activities and to facilitate the establishment of an effective wholesale market.

The first element of effective governance is the composition of the governing entity, the PJM Board of Managers. An independent consultant, Heidrick Struggles, was retained to select an initial slate of candidates to serve on the PJM Board of Managers, based upon criteria established in the PJM Operating Agreement. Section 7.2 of the Operating Agreement establishes strict qualifications for the Board Members, including the following characteristics:

[A] Board Member shall have no direct business relationship or other affiliation with any Member or its Affiliates or Related Parties. Of the seven Board Members, four shall have expertise and experience in the areas of corporate leadership at the senior management or board of directors level, or in the professional disciplines of finance or accounting, engineering, or utility laws and regulation. Of the other three Board Members, one shall have expertise and experience in the operation or concerns of transmission dependent utilities, one shall have expertise and experience in the operation or planning of transmission systems, and one shall have expertise and experience in the area of commercial markets and trading and associated risk management.

The Operating Agreement also provides that the President and CEO of PJM shall serve as a non-voting member of the Board. Board Members serve 3-year staggered terms, after being elected by the PJM Members.

Significantly, the Operating Agreement does not permit any “stakeholder” members to serve on the Board to “represent” the interests of any of the diverse Market Participants. In fact, the Board of Managers’ Code of Conduct expressly prohibits Board members from owning even a single share of the stock of a PJM Market Participant or an affiliated entity. Although Board Members must be experienced in the type of issues facing the Members, they are required to be totally independent of PJM’s Members, affected state regulatory commissions and all other stakeholder interests.

The second essential element of a successful governance system is also found in PJM’s Operating Agreement: specified fiduciary obligations for the Board of Managers. Section 7.7(i) of the PJM Operating Agreement requires that PJM’s Board of Managers exercise the highest level of care and concern to the Members based upon the following three requirements:

As its primary responsibility, ensure that the President, the other officers of the LLC, and Office of the Interconnection perform the duties and responsibilities set forth in this Agreement . . . in a manner consistent with (A) the safe and reliable operation of the Interconnection, (B) the creation and operation of a robust, competitive, and non-discriminatory electric power market in the PJM Control Area, and (C) the principle

that a Member or group of Members shall not have undue influence over the operation of the Interconnection;

These three fiduciary obligations provide the Board with an effective set of tools to use in order to guide future actions. These fundamental governance principles are particularly valuable because an independent Board is frequently faced with tough decisions in which no single course of action is apparent, due to conflicting interests. The Board, however, has been able to successfully resolve these conflicts in an independent manner by carefully considering these fiduciary obligations.

On several occasions, for example, the Board has had to balance conflicting interests between: (A) the desires of the majority of the Members against the best interests of a robust, competitive marketplace; (B) the need for stability of rules and procedures against the need to make evolutionary improvements in procedures to recognize market realities; and (C) the need to listen to and understand the desires of all of the Members against the need to ensure impartiality in decision-making. In each of these situations, the Board can only make a truly independent decision after carefully examining its fiduciary obligations as specified in the Operating Agreement.

The third element of a successful governance system is not found in the Operating Agreement but has developed over time: development of effective governance procedures and practices. The PJM Board has been successful in large part because over time it has established effective informal practices and procedures to promote independent governance. These practices include, for example,: (1) a strict *ex parte* policy prohibiting “back door” communication with Board members; (2) numerous Board liaison opportunities with Members; and (3) PJM Management’s commitment to a culture of enhanced two-way communication with the PJM Members, to ensure that the Board Members understand Member concerns.

Ex Parte Prohibitions: The Operating Agreement does not discuss the means by which PJM Market Participants may communicate with Board Members. However, when PJM filed its Code of Conduct for Board Members with FERC, the Code of Conduct specifically prohibited “back door” communications with Board Members, as follows:

Communications with the Board (except with the President and CEO in the normal course of business) by any employee, officer, agent or representative of a Member or of any Market Participant with respect to any matter that is before the Board or is reasonably likely to come before the Board, shall only be conducted through the procedures set forth in the Operating Agreement, the Tariff or the Transmission Owners Agreement. Any “ex parte” communication by any employee, officer, agent or representative of a Member or of any Market Participant with respect to any matter that is before the Board or is reasonably likely to come before the Board shall promptly be disclosed in writing to the full Board and to all of the Members.

This prohibition has encouraged parties to raise their issues through PJM’s Committee meetings and other public forums, rather than try to influence Board Members through private communications. On the occasions where such *ex parte* communications have taken place, they have been promptly posted on the PJM website (www.pjm.com) so that all Members are aware of these issues.

Board Liaison Opportunities: The Operating Agreement is silent on the need for communications between Board Members and interested stakeholders. However, the Board is very interested in ensuring that it fully understands the positions of all interested parties. Accordingly, the Board has developed the following liaison practices: (1) approximately once each quarter, several Board members meet with the Liaison Committee, consisting of the Chair of the Members Committee, the Vice Chair, the past Chair of the Members Committee, the Chairman of the Reliability Committee, the Chairman of the Transmission Owners Administrative Committee (and at least one member from any Members Committee Sector not otherwise represented), to generally discuss issues of concern; (2) at least one Board Member attends each of the Members Committee meetings to listen, first-hand, to the issues raised by Members; (3) once a year the Board Reliability Committee meets with the PJM Reliability Committee; (4) once a year the Board Competitive Markets Committee meets with the Members’ Energy Markets Committee; (5) once a year at least one Board member meets with the PJM Public Interest and Environmental User Group; (6) all Board Members attend the PJM Annual Meeting to informally discuss issues with stakeholders; and (7) the PJM Board Members meet at least annually with the Chairs of the state commissions in PJM’s Control Area,

pursuant to a liaison memorandum of understanding between the Board of Managers and the states.

Enhanced Two-Way Communication: The Operating Agreement also does not specify the manner in which PJM's Management works with the Members to share ideas and concerns. However, over time, PJM's Management has developed effective practices and procedures to ensure that Board Members fully understand the issues that they must address. This informal communication is "two-way" to ensure that PJM Executives are able to give the Board of Managers the best possible understanding of the key issues facing PJM.

- PJM Managers and Vice Presidents spend a great deal of time attending conferences and meeting with PJM Members to listen to the Members and to learn their views. PJM's Management is very visible in the electric industry through participation in national reliability and market initiatives.
- PJM Managers and Vice Presidents also make an effort to communicate with the PJM Members through a variety of methods. PJM's website posts the Agendas of all PJM Committees and subcommittees, usually a week in advance of the meeting. All Minutes from PJM meetings (except the Board meetings) are posted on the website. All of PJM's filings and orders from FERC are posted. Approximately 6,000 pages of PJM's internal manuals and procedures are posted on the website to describe in detail (often with flow charts) virtually every aspect of PJM's activities, including, for example, how PJM operates during normal situations and during emergencies, how bills are calculated, how reserve requirements are calculated, how market monitoring is accomplished, etc. PJM Management also speaks at hundreds of conferences each year to explain PJM's perspective. Moreover, representatives from approximately 70 different nations from around the world have sent delegations to PJM to learn about how PJM operates.

These informal practices and procedures, which were developed over time in response to the needs of PJM Members, ensure that the PJM Board is fully-educated on all sides of relevant issues, without being subject to "lobbying" by Members that might inhibit their ability to make impartial and independent decisions. These procedures also ensure that the Members understand PJM's positions on issues of interest.

Elements of Effective Market Design:

I believe that there is no such thing as a “perfect market”. Markets must evolve over time to reflect changing technologies, market conditions, and the responses of market participants to market rules. However, PJM has found that by focusing on three key market design elements, it has been able achieve what is regarded by some as the most successful wholesale electricity market in the world. These basic market elements include: (1) commitment to information transparency to enable market participants to make the most efficient market decisions; (2) providing market participants with as many choices as possible; and (3) enabling all participants to engage in the markets as easily as possible through advanced information technologies tools.

Information Transparency: PJM’s market is based upon the belief that market participants can make the best decisions if Members have sufficient amounts of real-time, quality information regarding markets. Market participants not only have vastly more financial resources than regulators in order to make such decisions, they also have enormous financial incentives to make the right decisions.

Of course, markets must be designed and operated to be fully competitive in order to follow this strategy. As required by the second of the PJM Board of Managers’ fiduciary obligations, the Board is intensely committed to prohibiting any party from exercising market power, so that markets remain workably competitive. That is why, the PJM Market Monitoring Unit (“MMU”) is required, among other things: (1) to annually provide the Members with a State of Market report; (2) to respond to request from state regulators or other parties to investigate potential market abuses; and (3) to continually investigate and study market imperfections so that the MMU can propose corrective actions on a timely basis.

However, market participants cannot make informed decisions without high quality information from PJM. That is why PJM is committed to information transparency for all Members. For example, every 5 minutes, 24 hours a day, 7 days a week, PJM provides on its website the real, locational marginal prices

for each of over 1,500 locations on its system. PJM Members can utilize an internet tool called “eData”, at no cost, to receive additional information, including: the real time projected load curves within PJM, the intertie capacities between PJM and neighboring regions, the weather projections that PJM is utilizing, the actual load within PJM, as well as a lot more useful information.

In addition, PJM operates an “open”, stakeholder-participation process for, among other functions: (1) calculating reserve requirements through the PJM Reliability Committee; (2) planning for regional transmission expansions and new generation projects; (3) revising and implementing credit policies to address potential member default issues; (4) filing proposed changes to the Operating Agreement and PJM’s open access transmission tariff; and (5) developing substantive changes to the energy market procedures. This process enables market participants to understand how PJM’s markets operate and to have a role in influencing the development of such markets.

Providing Participants With Choices: PJM is committed to giving market participants as many choices as practicable so that they can make the most efficient decisions for themselves and the marketplace. This means, for example, that Members are given multiple opportunities to meet their load obligations: (1) they can self-schedule generation that they own to directly meet their load requirements by simply notifying PJM of their intent to run such generation; (2) they can enter into bilateral transactions with entities that own or have contractual rights to generation by scheduling such transactions through PJM; or (3) they can meet their obligations by “buying” off of the PJM spot market that is operated by PJM or by “selling” excess generation into the spot market. These opportunities exist at all times and with little notice to PJM, parties can switch from one option to another. There is no “centralized” spot market at PJM that Members are required to participate in, although on any given day between 10% and 20% of PJM Members may choose to use the PJM spot market, rather than self-schedule or enter into bilateral transactions.

PJM also provides Members with multiple opportunities to meet their reserve requirements (frequently referred to as installed capacity or “ICAP” obligations). Parties can meet this reliability requirement by: (1) owning or contracting with generation sources; (2) participating in a monthly and/or

multi-monthly auction for such capacity; or (3) engaging in a daily auction to acquire or sell capacity to meet their ICAP requirements. By giving Members multiple choices for meeting reserve reliability requirements, PJM has created valuable incentives for new generation projects to locate in PJM and thus has decreased the volatility of PJM's energy markets.

Moreover, PJM is committed to expanding the choices available to market participants by constantly examining additional market tools and mechanisms to make transactions more robust and competitive. For example, the PJM Members meet almost every month in the Energy Markets Committee to discuss initiatives to further enhance market operations. During the past 5 years, PJM has made (in close cooperation with its Members) approximately 100 market improvements, all of which were promptly approved by FERC and implemented. One of PJM's approved projects for 2002, for example, is to implement a robust market for providing spinning ancillary services.

Enabling Information Technology Solutions: Information transparency and multiple options for market participants will be of limited use without effective and efficient tools that all Members can utilize. PJM has worked hard during the past 5 years to develop a "suite" of internet-based tools that empower all Members to understand and take timely actions in order to participate in the vibrant PJM markets. For example, PJM has developed an internet-based tool (called *eSchedules*) that enables two Members to arrange for and to confirm transmission service arrangements between generation and load. PJM monitors the transaction to ensure that it is technically feasible, but does not have to actively "get in between" the parties.

These advanced tools are an attempt to "level the playing field" because they ensure that any Member with basic hardware is able to participate fully and equally with Members that may have enormous capital and personnel resources. PJM believes that the more Members that are able to participate in a market, the more likely that the market will be competitive and robust.

PJM's message is simple: If a regional transmission organization's governance is properly designed, with appropriate practices and core values, it can implement effective market designs that incorporate information

transparency, customer choices and effective information technologies to empower all market participants.

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Mr. OSE. Thank you, Mr. Drom.

Mr. Feider, welcome.

Mr. FEIDER. Thank you, Mr. Chairman, for the opportunity to be here.

The Municipal Utilities serve approximately one third of the electric power usage in California. We are community-based organizations that are owned by our customers and our mission is to provide reliable, low-cost, and a stable supply of electricity.

To do so, we have invested heavily in both transmission and generation. Our customer-oriented mission makes us risk averse and, therefore, we procure our supply in forward markets and do not rely on spot markets to meet our customer demand. We look for durability in market design.

CMUA members also have a regional perspective, due to the significant investments that we've made in neighboring States and, in fact, many of our trading partners are located outside the State. The Western grid is largely made up of long lines connecting specific central generation plants to load centers. There is simply not enough wire in the air to accommodate the wishes of all market participants. FERC and policymakers must, therefore, be flexible to allow market design to accommodate regional and geographic differences.

The audit report that we are discussing here today confirms the observations of many segments of the electric industry about what is wrong in California. The most difficult task, however, is in not identifying the problems, but agreeing on the correct solutions. We are eager to get down to the business of fixing the industry so that it once again operates to the benefit of consumers.

The audit report concludes that the overwhelming view in the industry is that the existing ISO board is not independent. Fair or unfair, that perception is a barrier to progress. Practically speaking, to the extent that market participants perceive the decision-making process as biased, reform efforts are not likely to succeed. In that instance, the stability necessary to foster long-term infrastructure development in both generation and transmission will be jeopardized. For this reason, this issue must be addressed.

CMUA supports the goals of the audit report recommendations on governance. There is a need for both real and perceived independence of the board and formalized stakeholder input to that board. CMUA also notes that the independence is not assured simply by installing a disinterested governance board, there is an inherent conflict in a market structure that places a procurement obligation on the independent grid operator, thus placing the operator in a potentially adversarial position to market participants.

Defining the ISO role properly is, therefore, a necessary first step to California Independent System Operator independence. Clearly delineating its mission is, perhaps, the single, most important issue on which the ISO can make progress in the near future. Resolution of other issues, such as market design and cost control would be facilitated by a clear mission statement.

The California market participants, regulators, and legislators need to have realistic expectations about what the ISO can do and what it cannot do. The ISO is well suited to perform independent grid operation. The ISO is not well suited in running markets and

procuring energy. What began as a model in the ISO as the air traffic controller of the interstate electricity grid has evolved to a point where the ISO is the pilot, the mechanic, the flight attendant, and the caterer, as well as the air traffic controller.

CMUA would prefer that the ISO do a few things well, rather than try to do too many things not so well. CMUA has long held the belief that a minimalist ISO, one that focuses on reliable grid operation and open access to transmission, and stays away from markets and resource procurement, would best serve the interests of California and the West. This model will relieve complexity, reduce cost, and let the ISO focus on its core mission of running the grid.

CMUA strongly supports market reforms that require load serving entities, whether they be municipal utilities or investor-owned utilities, to procure adequate supply with associated reserves and ancillary services to meet their customers' needs.

In the old paradigm, this was called the obligation to serve. This obligation to serve was retained by our members, and needs to be re-created for any entity that wants to serve customers throughout the market.

As noted in the audit report, the California ISO has relatively high costs compared to other ISOs throughout the Nation. Even though that report identifies those high costs, it does not fully capture the myriad of other charges that can accrue to customers as a result of the ISO operations. These miscellaneous charges can be significant, unpredictable, and ultimately dwarf the administrative costs.

The audit states succinctly and accurately that the economic incentive for municipal utilities to join the ISO has simply not been there. The core reason is because the ISO market does not match our business model. We, the municipal utilities in this State, want to continue to be an integrated type of utility; we want to operate our generation and our transmission assets to meet our load.

In conclusion, CMUA agrees with the audit report that the opportunity exists to solve the problems that have plagued the California electric utility industry since the inception of restructuring. Now is the time to redefine the California Independent System Operator's mission to better serve consumers in the State of California. CMUA is hopeful that this hearing and this audit report will be a step in that direction.

Again, thank you for the opportunity to be here today.

[The prepared statement of Mr. Feider follows:]



California Municipal Utilities Association

**Written Statement of James C. Feider
President, California Municipal Utilities Association**

**Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs
February 22, 2002**

Introduction

Mr. Chairman, it is my distinct privilege to have the opportunity to address the Subcommittee today on matters that all agree are critical to the electric utility industry and therefore to the economic well being of California.

My name is Jim Feider, and I currently serve as President of the California Municipal Utilities Association ("CMUA"). In my professional capacity I am the Utility Director for the City of Redding Electric Utility. Prior to my service for the City of Redding, I held the position of Regional Manager of the Western Area Power Administration, Sierra Nevada Region. I am hopeful that my experience in both public power and the federal power program will add a different perspective on the difficult issues discussed today.

CMUA¹ is a non-profit association of consumer-owned electric and water utilities. There are twenty-eight consumer-owned electric utility members of CMUA, as well as joint powers agencies that are used to operate and facilitate financing of major transmission and generation facilities. All totaled, municipal utilities serve approximately one-third of the electric load in California.

CMUA members have been given the charge by their locally elected governing boards to provide a reliable, low-cost and stable supply of electricity to their customer-owners. In order to achieve this, they strive to always maintain adequate supply and

¹ CMUA is a non-profit trade association representing nearly all consumer-owned electric utilities in California. CMUA's electric utility members are the Cities of Alameda, Anaheim, Azusa, Banning, Burbank, Colton, Glendale, Healdsburg, Lodi, Lompoc, Los Angeles, Needles, Palo Alto, Pasadena, Redding, Riverside, Roseville, Santa Clara, and Vernon, as well as the Imperial, Merced, Modesto, Turlock Irrigation Districts, the Northern California Power Agency, Southern California Public Power Authority, Transmission Agency of Northern California, Lassen Municipal Utility District, Sacramento Municipal Utility District, the Trinity and Truckee Donner Public Utility Districts, the Metropolitan Water District of Southern California, and the City and County of San Francisco, Hetch Hetchy.

reserves in forward markets to meet the needs of their customer-owners without reliance on spot markets. CMUA members also operate full service utilities that retain integrated utility operation of generation, transmission, and distribution facilities, in order to maximize the benefits to their customer-owners. Relevant to market design, CMUA members own or have rights to significant amounts of the high-voltage transmission import capacity into California. Further, they own or have rights to the output of generation facilities that are located throughout the West, and therefore have a vital interest in seeing that issues addressed in California are done so in coordination with and recognition of prevailing regional practices.

In this regard, CMUA members are particularly attuned to regional developments, and coordination of California's market design and system operation with neighboring regions. Retention of the full service, integrated business model is not unique to municipal utilities in California; it is the predominant structure throughout the Western United States. Any market structure developed in California and the West needs to accommodate this business model. Furthermore, as the FERC and other policy makers consider standardized market design, they must be cognizant of other characteristics of the West that should guide development of market design. The Western grid is largely made up of long lines connecting specific central station plants to load centers. The grid is not robust enough and was simply not designed to accommodate the number and types of transactions contemplated in certain system designs implemented in other areas of the country, without significant congestion costs. FERC and policy makers must therefore be flexible to allow market design to accommodate regional differences.

The FERC Audit of the California Independent System Operator ("CAISO")

As the Subcommittee is aware, the Federal Energy Regulatory Commission ("FERC" or "Commission") has published an Operational Audit Report ("Audit Report") of the CAISO. The Audit Report confirms the observations of many segments of the electric industry, including the municipal community, about what is wrong with the CAISO. Unfortunately, the most difficult task is not identifying the problems, but agreeing on the correct solutions. In that vein, I will address below certain issues raised in the Audit Report, and propose solutions with specificity and brevity. Although by necessity some of my testimony focuses on what is wrong with the current system, the specific solutions proposed below are evidence that we are eager to get down to the business of fixing the industry so that it once again operates to the benefit of consumers.

My testimony will focus on four areas of significance to both the Auditors and the consumer-owned utilities I represent:

- CAISO Governance;
- Identifying the CAISO Mission;
- Cost Control and Appropriate Cost Allocation; and
- Accommodating Different Market Participants, including Full Service Utilities Like CMUA members.

CMUA members are vitally concerned that CAISO reforms are done and are done right. CAISO operations and markets affect CMUA members and therefore their customer-owners in varying degrees. Moreover, these affects will become more severe as existing contracts held by CMUA members either terminate or expire pursuant to their terms. Expiration and termination of these existing agreements will expose more Californians to the vagaries and high costs of the current dysfunctional system design.

I. Governance (Audit Recommendations III-R1/R2)

Proper governance is the foundation of durable market reforms. Resolution of the issue of governance is essential to any meaningful and durable reforms to the California market structure.

The Audit Report concluded that "the overwhelming view of industry is that the existing ISO Board is not independent." Fair or unfair, that perception is a barrier to progress. Practically speaking, to the extent that market participants perceive the decision-making process as biased, reform efforts are not likely to succeed. In that instance, the stability necessary to foster long-term infrastructure development, in both generation and transmission, will be jeopardized. For this reason, the FERC must address this issue upfront.

CMUA supports the goals of the Audit Report recommendations on governance. There is a need for both real and perceived independence at the Board level, and formalized stakeholder input to that Board. At the same time, wholesale market development is too important an issue to completely exclude retail regulators. Beyond that, however, it is premature to address the specific selection processes of the Board proposed in the Audit Report.

CMUA also notes that CAISO independence is not assured simply by installing a disinterested Governing Board. As set out in more detail below, there is an inherent conflict in a market structure that places a procurement obligation on the independent grid operator, thus placing the grid operator in a potentially adversarial position to market participants. Defining the CAISO role properly is also necessary to assure independence.

II. Identifying the CAISO Mission (Audit Recommendation III-R5)

Clearly delineating its mission is perhaps the single most important issue on which the CAISO can make progress in the near future. Resolution of many other issues, such as market redesign and cost control, would be facilitated by a clear, tailored, and durable CAISO mission statement.

The CAISO, market participants, regulators, and legislators need to have realistic expectations about what the CAISO can and cannot do. The CAISO is well suited to performing independent grid operation. The CAISO is not well suited to running markets, procuring energy, and enforcing market rules. What began as a model of the CAISO as the air-traffic controller of the interstate electricity grid has evolved to a point where the CAISO is

now also the pilot, mechanic, passenger, and the Federal Aviation Administration. CMUA would prefer that the CAISO do a few things well rather than many things poorly. Placing the CAISO in the role of the default provider of energy and capacity results in a move away from self-reliance and toward dependency on the CAISO. Consequently, the CAISO bears increasing burdens not only to ensure that California consumers have enough power to keep the lights on, but is also inextricably involved in the determination of price.

It is ironic that in the move to disaggregate and restructure the electric utility industry, and to allow markets to substitute for regulatory oversight, we ended up creating a new centralized bureaucracy that reconsolidated many of the functions intended to be disaggregated. Further, regulatory burdens have increased. It is time to reverse that trend by tightly focusing the mission of the CAISO on its core functions.

CMUA strongly supports market reforms that require Load Serving Entities (e.g. investor-owned utilities, municipal utilities, or other suppliers that serve end-use customers) to procure adequate supply, with associated reserves and ancillary services, to meet the needs of their customers. In the traditional utility paradigm, this was called the "Obligation to Serve." This Obligation to Serve is still retained by CMUA members. Once it has been reinstated for other Load Serving Entities, or recreated in other forms that comport with new market design, many market design reform elements will fall into place. CMUA has long held the belief that a minimalist ISO, one that focuses on reliable grid operation and open access to transmission, and stays away from markets and resource procurement, would best serve the requirements of California and the West. This belief is grounded not only in our experience over the past few years, but also our observations about the nature of the electric industry in the West and experience in Western markets before the advent of the CAISO.

CMUA's experience is that the independence and credibility of the CAISO is eroded when it is forced to take active roles in markets, either to run the markets or to procure services for others. Sooner or later, this market role will place the ISO in an adversarial position to other market participants who may also be procuring those same services, while at the same time relying upon the CAISO for open and non-discriminatory access to the transmission grid. It should also be clear by now that development of systems integrated into the ISO to run markets increases complexity and therefore costs. Finally, making market administration a primary function on the grid operator has the practical effect of hindering development of privately run markets and self-provision, two goals that ought to be encouraged. Once the expense of establishing the ISO market structure, with necessary systems and hardware, is incurred, the ISO has a vested interest in ensuring that volumes in its markets are maximized. Again, the independence of the ISO is threatened because the ISO has a stake in the outcome of the market, and who uses (or does not use) its markets.

III. Cost Control and Appropriate Cost Allocation (Audit Recommendation IV-R2).

As noted in the Audit Report, the CAISO has relatively high costs compared to other ISOs. One does not need to delve into the details of benchmarking one ISO against another

to observe that the high costs of doing business through the CAISO harms consumers and provide a disincentive to participation. Further, while the Audit Report addresses the CAISO administrative costs, it does not fully capture the myriad of other charge types that accrue to consumers as a result of CAISO operations. These miscellaneous charges can be significant, unpredictable, and can ultimately dwarf CAISO administrative costs.

It does not move the ball forward to dwell on past decisions made at start-up that now contribute to high CAISO transaction costs. However, that does not mean no progress can be made to reduce costs going forward. Most of all, a clear CAISO mission statement that is appropriately tailored to the core functions of the CAISO will go a long way toward controlling future costs. Too many times in the past, the CAISO became the dumping ground for a host of projects for which market participants refused to take responsibility, including: (1) ensuring adequate peaking capacity and reliability reserves that certain Load Serving Entities refused to procure; (2) facilitating demand reduction programs when state programs were expiring or insufficient; (3) creating market functions that only a few market participants desired to use; and (4) becoming embroiled in generation and transmission facility siting disputes that involved controversial land use issues. These burdens, added to the responsibilities of administering a complex and dysfunctional system design, and contributed to ever-increasing costs. While we cannot immediately solve the problem of servicing the significant debt caused at start-up, we can provide clear direction to the CAISO about its role going forward.

IV. Accommodating Full Service Market Participants Like CMUA Members (Audit Recommendation IV-R12).

The Audit states succinctly and accurately:

In past years, extensive discussions have taken place to accommodate public power as a part of the CAISO grid, but all have failed. Varying reasons for this failure have been offered, including private use restrictions, local control issues, turf and philosophical issues, load curtailment policies, and compensation for transmission. On balance, however, it appears that the economic incentive for broad municipal participation in the CAISO has simply not been there.

The core reason why closer integration between the CAISO and municipal utilities has not been accomplished is that, while the CAISO system design presumes that generation unit ownership and operation is unit-specific and disaggregated from load, CMUA members still operate generation units on a system basis and at all times to best meet their Obligation to Serve their customer-owners. When a municipal utility runs its portfolio of generation it does so primarily to meet customer requirements; it is not bidding into markets. The municipal utility is saying, in essence, "I choose not to use the markets" to serve my customers for the amount covered by my generation. It therefore expects to retain operation control over its generation system, and further not to be allocated a host of fees for its non-use of the markets. The CAISO's system design does not yet well accommodate this integrated model of serving customers. It presumes that all generation is bid into its

markets, and all consumer load is met through its markets. The fees that are assessed for market participation, as well of the diminution of control that allows municipal utilities to optimize the value of assets for the benefit of their customer-owners, currently outweigh any benefit that may flow from closer integration with the CAISO. Again, this is not simply a California municipal issue. Since FERC and others are seeking to create Regional Transmission Organizations to coordinate grid operations and markets, a way must be found to accommodate this integrated utility structure, as it is the predominate business model in the West.

To accomplish closer integration between the CAISO and CMUA members, four things need to happen:

1. Allow and Encourage Load Following. The CAISO rules must allow Load Serving Entities to change schedules to match their customers' changing load. This is especially important in inland areas of California that can experience significant and unexpected fluctuations in load during peak summer conditions. Today, the CAISO scheduling systems do not easily accommodate "load following" by Load Serving Entities, but instead implicitly encourage reliance on the CAISO's real time markets to meet fluctuations in customer usage. Such procedures contributed to the large amount of California load being served from spot markets;
2. Operation and Control of Integrated Systems. Municipal utilities operate their generation as integrated systems, balancing customer requirements with operation of diverse portfolios that include hydroelectric resources and thermal resources that are energy limited due to environmental constraints. Autonomy to maximize the value of these resources for their customer-owners, consistent with reliable operation of the entire grid, is a necessary precondition to closer integration between the CAISO and municipal utilities or other integrated systems;
3. Cost Control and Allocation. Cost causation principles should be followed strictly. When a market participant uses a service, it should bear the cost of rendering that service. Conversely, when a market participant chooses not to use a service, it should not have to pay. Too often, the CAISO has been a convenient clearinghouse for costs incurred because of the behavior of a relatively few number of market participants. The impulse to spread costs among the largest number of people in order to diminish their apparent impact on the bottom line must be resisted if CMUA members are to voluntarily integrate with the CAISO structure; and
4. Appropriate recovery of transmission costs. Consistent with principles of cost causation, when a market participant uses transmission that market participant should be expected to pay for that use. If closer integration with the CAISO systems means that municipal utilities will transfer beneficial use of their transmission rights pursuant to CAISO Tariff terms and conditions, it is reasonable to expect that the users of those rights should be expected to fully compensate the municipal utility for the costs of the transferred facilities.

Conclusion

CMUA agrees with the conclusion of the Audit Report that the opportunity exists to solve the problems that have plagued the California electric utility industry since the inception of restructuring. This opportunity holds true not only for overall system design improvements, but also is accurate on the issue of improving cooperation and coordination between municipal utilities and the CAISO. CMUA is hopeful that this hearing and the Audit Report will serve as a springboard for meaningful reform.

Again, thank you for the opportunity to appear before the Subcommittee this morning, and I look forward to answering your questions.

Mr. OSE. Thank you for joining us, Mr. Feider.

Mr. Smutny-Jones.

Mr. SMUTNY-JONES. Thank you very much, Mr. Chairman.

My name is Jan Smutny-Jones, I'm the executive director of the Independent Energy Producers, and I was formerly chair of the Stakeholder Board of the ISO.

When I was at the back of the room earlier today, Mr. Chairman, looking for my colleague's testimony, I came across a licensing application which was subtitled, "Lost Dogs and Cats Find Their Way Home," and I hope at the end of the day we collectively find our way home here. I think that's very apropos.

Mr. OSE. Mr. Smutny-Jones, that is out of order. I'm going to gavel you out of there.

Mr. SMUTNY-JONES. Sorry, Mr. Chairman.

What I'd like to do today is summarize my testimony by basically pointing out that at the end of the day we need several things to occur. One is, we need to continue the reliability of the overall grid. We need market stability, that is imperative both for a new infrastructure of investment and to ensure that our utilities become credit worthy, and we need an independent transmission organization.

I spent a considerable amount of our testimony documenting how we got here, and I did that deliberately because I think recently there's been a significant amount of revisionist history in terms of ignoring the underlying fundamentals of what happened in California. Those underlying fundamentals are still there. We were over relying on the spot market, that was driven by hydro electricity in the Northwest, that hydro electricity was gone. We had a significant run up in demand. We had significant increases in gas prices. The point being, while things are stable now, what we just went through, which was traumatic and no one's idea of a good market structure or a good time can reoccur.

I want to commend the committee for taking this step in terms of looking into this very, very important issue.

The fact of the matter is, we've characterized this as sort of the perfect storm, which was a convergence of very adverse market fundamentals of historic proportions. This basic underlying market force ran into a market structure, which I think you've already heard a significant amount of testimony on, that was fundamentally flawed in the fact that it was basically completely dependent upon a short-term market. I think we should have learned from that.

I would commend the ISO; they are looking at least with their market design reform at least trying to open up a capacity market which would go a long way toward providing some stability.

The net effect of going short had a significant impact in terms of the run up of actual prices for the power in the West. That led to a long, agonizing debate that apparently continues today on price caps. And, as being the first person to authorize the use of price caps in the ISO, back in July 1998, I find it ironic that we are now in February 2002 and this still seems to be a topic. Price caps is arguing about bandages, we need to get to the fundamentals of the market structure and fix that.

One of the key issues that we need out of all of this is a clear definition of market power, and this is something that hopefully FERC will be taking up. Right now, market power means different things to different people. We don't have a standard under which we know what one means when you abuse market power. Basically, what we need is the speed limit sign on the front end of the street so everybody knows what the rules are and everybody knows what happens if you violate them.

I think that needs to be monitored on a regional basis, not just sort of that it be the basis from ISO to ISO in terms of the way it is being done now.

With respect to governance the fact of the matter is, this is an integrated transmission system that services 11 States, two Mexican states, two Canadian Provinces. We need a clear governance structure of an RTO. I'd go that direction. I think the lack of political independence has undermined the ISO's credibility and its ability to address real operational issues, and I'm very much concerned that the lack of needed market reforms is not moving fast enough because of over deference to, in particular, the California Public Utilities Commission, and other political interests.

I am not saying that the ISO should not coordinate with State agencies, far from that, but I, basically, think that it's very important to recognize that this is an interstate organization that needs to interact. I have a very high respect for the current ISO, I don't believe the Governor calls them on a daily basis and tells them what to do, but I don't think there's any question that the ISO board, as it is currently constituted, is a political board and was designed to do that. Simply put, I don't believe politics and physics mix.

In closing, I think it's very important, as I said earlier, that we get to the fundamental market reforms that we need to do now, before we start seeing a run up once more in demand. We need a reliable grid. We need market stability, and I mean that from a political and regulatory sense, and we need an independent RTO. That will only be accomplished through significant State and Federal cooperation. So, we welcome further inquiry on this, and hopefully, will at the end of the day find our way home.

Mr. OSE. Thank you, Mr. Smutny-Jones.

[The prepared statement of Mr. Smutny-Jones follows:]

Comments Of Jan Smutny-Jones
Before The
Subcommittee On Energy Policy, Natural Resources
And Regulatory Affairs
Of The Committee On Government Reform
Concerning The Status of California's Electricity Markets
February 22, 2002

Thank you Mr. Chairman and members of the committee for the opportunity to present this testimony on reforming the California Electricity markets. I am Jan Smutny-Jones, the Executive Director of the Independent Energy Producers.¹ I previously served as Chair of the California Independent System Operator (CAISO) from Start-up through January 2001.

I would like to briefly discuss the development of California's energy woes, some lessons that are evident from the last two years, and some concerns I have that similar problems could arise again if we fail to learn our lessons and respond appropriately.

I hope your will take away three overall issues that need to be addressed going forward:

- The focus must be the continued reliability of the grid, something the CAISO has done very well over the past four years. The CAISO demonstrated ability to maintain reliability should be an example during the transition to a Regional Transmission Organization (RTO) structure;
- Market Stability: It is imperative that regulatory and political stability return to California. This element is critical to attract new infrastructure investment and to ensure that utilities are returned to creditworthiness.

¹ IEP is a nonprofit trade association representing the interests of electric generators and certified independent power marketers in California. IEP's members collectively own and operate more than 20,000 MW of installed generating capacity participating in California's competitive markets, and some are involved with new project developments that will operate within the competitive markets. In addition, power marketers—significant participants in the California markets—are also included within IEP's membership. Other members, consisting of consultants and law firms, provide support services for the industry. These comments reflect the opinion of Jan Smutny-Jones, and do not reflect the opinion of IEP or its individual members.

- ISO/RTO Independence and regional political legitimacy. The governance and operation of the RTO must be independent from control or domination by any one market participant interest.

The energy crisis of 2000 had profound economic and political impacts on California and the western regional market. It also had the effect of slowing progress toward market reform throughout the United States and the rest of the world. It is important that lessons are learned from this experience and that we not repeat the errors that allowed the crisis to go unchecked.

The Western energy crisis was caused by a supply and demand imbalance occurring within a flawed market structure that did not allow the market to correct itself. Today, the underlying fundamentals that converged to cause that supply/demand imbalance are camouflaged by the economic recession and resulting drop in demand, lower gas costs, and easing of the Pacific Northwest (PNW) drought.

Unfortunately, the market structure remains flawed, particularly with respect to:

- Overemphasis on short-term markets: lack of incentives for load-serving entities to create a diverse portfolio of resources to meet their loads' needs;
- The creditworthiness of load serving entities;
- Independent governance of the transmission system operator;
- Adequate price signals to encourage investments in electric and gas transmission and generation facilities;
- Forward scheduling accuracy and efficient congestion management;
- Absence of an Independent Market Monitor policing clear market-abuse rules; and;
- The use of the last-minute "realtime" markets to serve significant portions of demand.

The Perfect Storm

The analogy that many have made comparing what happened in California and throughout the West to the “Perfect Storm” is very fitting, that is, it was a convergence of adverse market forces of historic proportions.

California began restructuring its markets at a time of significant surplus throughout the WSCC.² Reserve margins averaged about 25%. California, observing the abundance of low cost resource throughout the region saw restructuring as a mechanism to access these resources. Initially, wholesale prices in the California market averaged 2.6 cents kWh. In fact, the California Energy Commission continually reported that the prices were too low to attract investment in new power plants.

Unfortunately, this surplus rapidly disappeared. Load growth in California, driven by a bullish technology and services-based economy rose 3%-4% per year, translating roughly to demand for 3-4 new power plants a year. In some areas, such as the Silicon Valley, demand increased over 30%, again with no new capacity added.³ Compounding the growing economy and related demand for electricity, was the lack of investment in supporting infrastructure, such as gas pipelines, transmission and distribution facilities. California was not alone in this regard, as similar growth throughout the WSCC also reached historic levels following the economic stagnation of the early 1990s.⁴

Within California, there was not an immediate corresponding increase in the construction of new power plants.⁵ No significant generation was added in almost a decade. While AB 1890

² California Energy Commission: www.energy.ca.gov/electricity/peak_demand_and_resources; Northwest Power Planning Council Document 2000-18 Final Report: Study of Western Power Market Prices (10/11/00), page 3.

³ Peak Demand 1990-1999 California Energy Commission: Gas use from 1990-1997 actual (source: EIA; 19; Silicon Valley Growth from LA Times 1/8/00. Generation Capacity growth from 1990-2000 Source CEC Electricity Report and appendices 2000 CEC Power database.

⁴ 2000 United States census; *High temperatures and Electricity Demand: An Assessment of Supply Adequacy in California- Trends and Outlooks*. (Fastest growing states in the US are all western interconnected states.)

⁵ Generation Capacity growth from 1990-2000; See also, CEC Electricity Report and appendices 2000 and CEC Power database.

offered a new market-based vision, its implementation, as well as an initiative challenge, caused sufficient market uncertainty that delayed the construction of new power plants that would have maintained a reserve surplus.

Outside California, surplus regional supplies began to drop along with the level of the region's hydro resources. These market fundamentals provided a steady upward pressure on wholesale electricity prices. Consequently, as demand inched upward and regional supplies became more scarce, spot market supplies—power not already committed under longer-term forward bilateral arrangements—became more precious. While California hit its all time highest single peak demand of 45,884 MWs in July of 1999, the Golden State experienced a record number of peaking days exceeding 40,000 MWs in the Summer of 2000 (34 days).⁶

It is critical to recognize the regional nature of the electric markets and California's reliance upon its neighbors. On any given day, California imports around 20-25% of its power needs. This reliance typically makes sense because California's peak demand occurs in the summer, while peak demand in the PNW generally occurs during the winter periods. So it follows that these Northwest hydroelectric resources are the primary suppliers in the imported power market. In 2000, the Northwest experienced its second worst water year in history. Consequently, throughout 2000, imports from the Northwest needed to supply California loads fell by over 3000 MWs daily.⁷

As a result, California became increasingly dependent upon a rapidly aging fleet of fossil fired power plants (averaging about 37 years old) to meet demand. These older fossil units ran

⁶ CAISO 2001 Summer Assessment, page 26, 27. Figure III-B indicates the number of days out of a year the daily peak has exceeded the threshold of 35,000 MW (84) and critical resource level of 40,000 MW (34) respectively.

⁷ Northwest Power Planning Council; See also, CAISO 2001 Summer Assessment, page 6: "Historically, the CAISO Control Area is a net importer in most hours. California's current energy crisis is partly a function of declining imports; CAISO annual average net import levels declined by 28% between 1999 and 2000; Imports have declined because electricity producers outside of California have had less electricity to export to California for two main reasons: increasing electricity demand in the Western Interconnection (causing utilities to sell more to native loads rather than export to CA) and decreasing supplies from hydropower resources in the Pacific Northwest as annual precipitation levels drop."

60% harder in 2000 than they had in 1999, and in fact the oldest units in the state (45-50 years old) ran at 108% harder.⁸

Prices in the gas markets, already on the rise, were affected by this sudden increase in gas demand. More importantly, gas was not being put into storage at anywhere near the levels traditionally done to assure sufficient supplies because the local gas companies were waiting for prices to fall. Gas prices did not fall, but instead continually rose throughout 2000. As the weather turned colder, competition over limited interstate pipeline capacity grew between gas needed for heating, gas needed for electricity generation and gas needed for storage to assure adequate supply within the state for all other uses. Importantly, gas transportation into California was further constrained by a gas pipeline explosion in the fall of 2000. The higher operation of these older units directly increased the demand for natural gas.⁹

Additional regulatory and operational constraints effected this marketplace and the ability of certain resources besides hydro to meet demand. The older gas units have specific air quality permit requirements, which significantly limit their run times, and violations of these requirements would result in very high penalties for non-compliance. Many older units had scheduled maintenance for the installation of updated air quality control equipment, but much of this work was deferred into the latter part of 2000 and early 2001 because CAISO wanted all generation available for the summer peak demand period.¹⁰ Moreover, regularly scheduled maintenance on many of these older units was deferred because they were need to run throughout the summer and fall. The ISO declared 77 No Touch Days in 2000, meaning that regular maintenance and outages for facility upgrading had to be postponed.¹¹ So, at the end of the traditional summer peak demand period, there were a large number of in-state resources that needed to have maintenance and upgrading done so that they could be operational when demand returned the following spring.

⁸ See, California Energy Commission, comparison calculated from EPA Acid Rain database. See also, Ibid, CAISO 2001 Summer Assessment.

⁹ The demand for natural gas in the SoCal Gas system was largely driven by very high demand for natural gas by electric generators. ..The demand for natural gas by gas-fired generators ranged from twice to nearly three times the normal winter electric generation gas demand. p 56 CEC Natural Gas Infrastructure Issues October, 2001

¹⁰ ISO Board Memorandums April 6, 2001 by Jim Detmers.

¹¹ ISO list of System Status and Conditions posted at www.caiso.com/docs/09003a6080/08/8a/09003a6080088aa7.pdf

Going Short

The market structure flaws of California amplified adverse regional supply and demand fundamentals, in particular, its complete reliance upon an “energy-only” short-term spot market. Unlike approaches taken elsewhere, there was no value assigned to generation capacity, and no elements that encouraged forward planning for future energy demand. Rather, in a design that was intended to realize a number of goals—including among other things easier stranded cost recovery for the utilities and more transparent instantaneous energy prices—longer-termed contracts were actively discouraged.

The ISO had “Reliability Must Run” contracts (RMR) with certain select resources, addressing localized operational needs and localized market power. The RMR arrangements were not seen as capacity contracts or as mechanisms designed to mitigate future supply or price volatility for the major load-serving entities. Significant actions were taken by the ISO and utilities to remove as many RMR contracts as possible from the system. For example, Edison invested hundreds of millions of dollars in capacitor upgrades in order to obviate the need for continued reliance on certain RMR contracts. The ISO actively encouraged this transmission investment as a cost-cutting action. As a result, many of the initial RMR contracts and associated generation capacity were no longer dedicated to CAISO’s needs in 2000. In short, California’s market design assured massive exposure to spot market volatility, resulting in undermined market stability and reliability.

The Law of Unintended Consequences: From Caps to Chaos

An early issue addressed by the CAISO concerned the operation of the “ancillary services” markets. Put simply, ancillary services are products from generation resources that are needed to support the transmission of energy and to assure system reliability. The initial ancillary services and imbalance energy market had certain flaws that eventually led to proposals for price caps in a market that was supposed to be limited to operational reserves for the last 3 – 5% of energy. Price caps in this market were intended to be short-lived and isolated to the

ancillary services market. However, as wholesale prices increased, this temporary fix had the unintended consequence of driving large volumes of load into the CAISO's "capped" realtime markets, exacerbating system operational problems associated with insufficient forward energy procurement and CAISO's ability to secure the large volume of energy needed at the last possible minute. So it was a design flaw in the ancillary service market that eventually brought price caps to the larger wholesale energy market and further undermined incentives for longer-term power procurement by California's major participants.

Today there is a lot of talk about the need for price caps or the need for some type of controls over prices in the markets. I do not believe that this discussion has been particularly helpful in terms of realizing the longer-range needs of Californians—that is, ensuring that there are sufficient generation, transmission resources and demand response tools in place to handle future needs.

I do not believe that anyone can plausibly argue that the gyrations in energy rules and regulations over the course of the last year has been stabilizing or that it has helped instill confidence in the marketplace. The opposite result is true. The abuse of price caps and the series of major market changes have increased perceptions of risk in the market and have probably dramatically cooled new infrastructure development. What is needed is greater stability and regulatory certainty in terms of both the rules that apply to the wholesale markets, as well as the rules developed at the California Public Utilities Commission (CPUC) and applied to the utilities.

Market Power: I'll Know It When I See It

In terms of price caps or price mitigation, if the goal is to protect consumers from the abuse of "market power," then there is a real need for a clear and unwavering definition of what "market power" means in the energy business. I would note that in other contexts regulation is not aimed at stamping out the existence of market power, but rather to foreclose the abuse of market power. I am afraid that if the goal is transmuted into the elimination of any possibility

than any actor could ever have market power in any wide range of circumstances, we would get a system that is vastly overbuilt and economically inefficient.

In addition to a clear definition of market power, there needs to be clear and stable rules so that market participants understand what behavior is deemed abusive and what the consequence are for failing to live within the rules. Accordingly, entities that are found to abuse market power must face penalties that are stated up front and that are adequate to deter bad behavior. An independent market monitor that reports directly to the FERC and that is not forced to present their materials through the RTO or some other entity should do the policing of market power regionally. This independent market monitor should be uniquely positioned to review transactions within the regional marketplace.

Appropriate Governing

The transmission system that connects 11 western U.S. states, 2 Mexican states, 2 Canadian provinces and millions of consumers with hundreds of supply resources is the electrical equivalent of our national interstate highway system.

A fundamental underpinning of national energy policy since 1992 has been the need to assure the nondiscriminatory use of transmission facilities. The efficient use of scarce transmission facilities requires their operation in a manner that does not pick “winners” or “losers” in the marketplace and does not discriminate between in-state resources and imported power.

Consequently, there is a common-sense understanding that the operation of the transmission system requires real independence from the commercial interests of the transmission owner. The governance of Independent System Operators and Regional Transmission Organizations has been an evolving debate, and here, like other areas, California was once at the forefront of that debate.

Initially, a “stakeholder” board governed the CAISO with 26 members, selected, in part, by a new state agency called the Electricity Oversight Board. The stakeholder board was comprised of various classes of entities, including consumers, transmission owners, generators, public power entities and other users of the transmission system. The theory behind this all-inclusive governance structure was that the same folks who had to live by ISO’s rules and who had to pay various ISO-related costs were likely to make prudent decisions concerning its control and operation. Care was taken to balance the various interests on the board so that no one interest would necessarily control the outcome of any issue.

The “stakeholder” board worked well during the ISO’s start-up and in the early development period.¹² During that time there was a common vision and a common interest in getting the system up and running and making the system work. But governance of the ISO with the large stakeholder board became increasingly dysfunctional and unwieldy as the ISO was put into a de facto ratemaking role that applied price caps and other mechanisms to control wholesale energy market costs.

Complying with FERC’s November 1, 2000 order¹³ the stakeholder board was in the process of replacing itself with an independent board during late 2000. However, in January 2001, California’s legislature created a new five-member board, appointed by the Governor, to replace the stakeholder board.¹⁴ The legislation was designed to ensure that California retained control over the ISO.

The lack of “political” independence has undermined the CAISO’s credibility and ability to address real operational issues. I am concerned that much needed market reforms are not moving forward because of excessive deference to the California Public Utilities Commission and other political interests as the real “independence” of the CAISO has been muted.¹⁵ This

¹² CAISO Operational Audit, Vantage Consulting, page 10 (Finding III-F1), and page 25.

¹³ 93 FERC P 61,121 (2000). from page 28

¹⁴ AB 1x-5, Chapter 1 of the First Extraordinary Session, approved January 18, 2001. This same legislation prohibited the CAISO from joining any RTO.

¹⁵ For example, CAISO’s board directed staff on November 7, 2001 to develop and file with FERC, by the end of the year, a tariff revision concerning generation facility maintenance standards. That program was supposedly not filed because the CAISO was waiting for additional input from certain state agencies and policy makers, according to a letter from the CAISO CEO dated January 8, 2002

situation is not sustainable and will result in higher costs and compromised reliability if needed market reforms gives way to bureaucratic turf battles. Simply put, politics and physics don't mix.

Since its inception, CAISO governance has been an area of tension between California and the FERC.¹⁶ Today issues regarding governance and oversight of the CAISO remain a potential flashpoint for a state vs. federal jurisdictional battle. Such a battle would be an unfortunate misallocation of focus leading to little good.

California's legitimate interest in market reform does not need to be at cross-purposes with FERC, other states or transmission users. However, the ISO is a FERC regulated utility engaged in interstate commerce. California's interdependence with other states requires a regional solution.

California consumers will be best served by an Independent Board, which is seen as politically and economically legitimate by transmission system users and those states affected by its operation. Domination—real or perceived—by any one state or set of interests will undermine the efficient use of the transmission system. Disputes over governance, or undue control over the system, will ultimately lead to higher costs for all consumers throughout the region.

This conflict is a resolvable problem and there are existing examples that can help solve this issue. The PJM ISO has an independent board comprised of individuals with expertise governing a multi-state ISO. I am sure that the political leadership of Pennsylvania, New Jersey, Maryland and the District of Columbia are as concerned about the interests of their respective constituents as is the political leadership of California. There is an important lesson to be learned here.

¹⁶ See, 77 FERC ¶ 61,204 (1996).

LOOKING FORWARD

What is needed today is some form of common understanding or goals that build off the lessons learned over the last couple of years. Above all else we need to ensure that we do not repeat the past.

First we need to agree that we want an electric delivery system that is reliable and that will be positioned to meet the level of demand we expect to see in the coming few years. This means that we have to provide enough lead-time for the market to respond and bring new resources online with recognition of the timelines dictated by environmental regulations. We need to agree where the responsibility rests for transmission and resource planning, and we need to agree that it's important that the utilities have clear regulatory signals, the opportunity to use their managerial discretion in a reasonable manner, and the opportunity to maintain their creditworthiness.

Second, we need a marketplace that is stable, not just in the form of price stability, but also in terms of stability in market rules and regulations. Instability and uncertainty in the marketplace discourages timely investments and increases the risks to any decision—be that operation of a business or construction of a new power plant. Stability is needed not just within the CAISO's operations and FERC-regulated tariffs, but also with regard to how the largest players—the three major utilities—are permitted to function under the regulatory guise of the CPUC. Although California's initial market structure was the product of an effort at the CPUC, it has evolved significantly, and the presence of any disconnections between the direction of the wholesale marketplace and what the utilities are permitted and encouraged to pursue at the retail level can either help avoid future problems, or be the source of another wave of crisis.

Third, the energy marketplace needs confidence in the CAISO and its governance structure. The interdependent nature of today's marketplace, the movement to create a regional transmission organization, the diversity of interests within California, and the complex and technical nature of this business means that the governance of the CAISO—or any successor RTO—must be able to reflect these varying interests while avoiding decision-making paralysis.

In conclusion, everyone in the West should now know that a Perfect Storm is possible, but more importantly, with the right tools it can be avoided. We in California need to be sure that we give ourselves those tools and avoid that storm.

Mr. OSE. Finally, our last witness, Mr. Drabinski, welcome.

Mr. DRABINSKI. Thank you very much, Mr. Chairman. I appreciate this opportunity.

I won't take a long time. I think our report speaks for itself, and I'd be happy to answer all the questions that you have.

I would like to make a couple points. When we started the audit, through auditing, using the standards of the tariff, and very shortly we learned that the causes fell way outside of tariff, outside the ISO. For that reason, with the agreement of the FERC, we decided to really address the overall problem, not the specific little pieces within the ISO, and the results of that were five global recommendations. I won't repeat them. One deals with fiscal stability, jurisdictional cooperation, process for interaction, market design, and the CAISO's role.

They are so intertwined that without solving all of these problems in some logical sequence it is destined to continue to have a repeat of problems from the past.

Mr. Winter is correct when he says that he's got a group of people that have worked very hard, and they've worked on a difficult situation, and many of the problems came from outside of his organization, and I agree 100 percent with that. He's got the finest, brightest people you could ever expect to assemble. He also has to deal with the problems of them dealing with their own day-to-day problems, and I think we addressed them in a fair amount of detail. However, he's correct in saying that many of the solutions are outside the reach of the ISO. I think that's why this group and others within government and regulatory agencies in California need to take action.

The last point I'd like to make, I think everybody needs to leave this room with, is that the crisis in California still exists. A group of experts I brought in as part of our team, as we looked to where we were, we looked at the perfect storm scenario, and you've gone from the perfect storm to the perfect calm at this point, but all of the basics are still there and, in fact, with the implosion of Enron and the concern on the part of a lot of the major merchants for expending capital, I fear that a year or two down the road you could see another major problem occur, and people just need to keep that right in front of them all the time. With that, I'll just answer any questions you have.

[The prepared statement of Mr. Drabinski follows:]

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Testimony of

Walter P. Drabinski, President

Vantage Consulting, Inc.

Before the

Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs

February 22, 2002

1 I am pleased to present this testimony before the Subcommittee on Energy Policy, Natural
2 Resources and Regulatory Affairs. The basis for this testimony is a report titled "Operational
3 Audit of the California Independent System Operator" which was prepared for the Federal
4 Energy Regulatory Commission and submitted on January 25, 2002.

5 This report by Vantage Consulting, Inc. (Vantage) was in response to the Federal Energy
6 Regulatory Commission (FERC or Commission) request for a proposal (Solicitation Number
7 FERC02RMT22071, dated October 9, 2001) to perform an Operational Audit of the California
8 Independent System Operator (CAISO).

9 The stated purpose of this Operational Audit was to have an independent entity identify all
10 appropriate steps for prospective improvements in California markets, including what
11 improvements can be made to help the CAISO in effectively performing its increasing
12 responsibilities. Consequently, this audit was performed to determine the areas, if any, in
13 which the CAISO could enhance its effectiveness in fulfilling its responsibilities to operate the
14 transmission system under its control and administer certain real-time energy markets. The
15 scope of our audit did not include, or consider, what fundamental changes should be made to
16 the California market structure beyond improvements to the CAISO.

17 Vantage's audit responded to the stated objectives by developing a work plan to address the
18 scope as detailed in the RFP. The work plan was developed based upon the current Tariff and
19 incorporated all ISO Tariff revisions approved by the FERC, up to, and beyond Amendment 36.
20 Vantage also utilized a team of experienced consultants who met all the requirements of the
21 project.

22 The audit was to cover the period between October 2000 and October 2001. This 12 month
23 period encompassed a broad range of events within the California energy industry. While
24 addressing this period, we were cognizant of changes that have occurred since that time and
25 our report reflects many of these changes.

26 A total of 75 interviews were conducted, many of which had multiple interviewees. In total, we
27 estimate that over 125 key industry personnel were interviewed as part of the audit. We
28 estimate that over ten thousand pages of material were reviewed as part of this audit. Much of
29 this consisted of public information.

OVERALL PROBLEM

It is no secret that the functioning of the electric industry in California is seriously flawed. In the absence of extensive repair, including reestablishment of the participants' confidence in the market, continuing negative consequences are likely. In this context, we examined the industry broadly and extend this conclusion to all of the key elements of the business, including factors such as:

- The rules governing the business.
- The quality of the players in terms of financial strength, credibility, and public trust.
- The processes for interaction among the participants.
- The processes for regulatory oversight and, where appropriate, direction.
- The financial viability of the overall system; i.e., can it continue to function in good times and bad?
- The cohesiveness of the industry; i.e., is there sufficient leadership and/or cooperation to permit a coordinated solution to problems?
- The long-term viability of the electric system; i.e., whether the mechanisms now in place assure reliable operations and sufficient future investment in plant, particularly generating and transmission facilities.

The current industry in California seems to fall short in most, and perhaps all, of the above categories. Although some industry participants and observers might contest this conclusion in one or two categories, our discussions with an extensive cross section of industry, government, and regulatory parties suggest that the conclusion of a broken system is indeed widely held. Most feel that the degree of damage is sufficiently severe that only a massive overhaul will be appropriate.⁴ There is a strong basis for the consensus that today's system is broken and that the repair challenge is immense.

⁴ In numerous interviews, we asked if the problems were severe enough to "start over." The overwhelming consensus is that sweeping change was essential.

GLOBAL RECOMMENDATIONS

We have categorized the reasons in five broad areas. These elements may also provide a roadmap towards a solution

- Fiscal stability
- Jurisdictional cooperation
- Processes for interaction
- Market design
- The CAISO's role

- V-R1** Re-establish a firm fiscal financial foundation that restores confidence and assures cash will continue to flow through the system on a continuous basis even in times of market instability and upset.
- V-R2** Develop, among FERC and the various California regulators and agencies, formal policies committed to enhancing cooperation in the design and subsequent oversight of California's electric industry.
- V-R3** Establish new interaction processes, less bureaucratic and more timely, that balance the needs of all of the parties with the realities of operating a complex electric system and associated markets.
- V-R4** Redefine the role and vision of the CAISO within the new industry structure. Establish governance in accordance with that role. Implement an aggressive program, including culture change, to rebuild credibility and confidence in the CAISO.
- V-R5** Assure that there is an effective stakeholder process available to provide meaningful input to the market re-design effort.

AUDIT FINDINGS

There are a number of very specific findings in *Chapters 3 and 4* of the report that must be understood in order to comprehend the depth and scope of the problems in California and the

1 need for a comprehensive far-reaching solution. Some of the major findings excerpted from the
2 report include:

3 **Governance and Independence**

4 One of the linchpin issues that needs to be resolved is governance of the CAISO and the
5 perception of an inherent lack of independence that is unique to a single state ISO. In virtually
6 every interview this was a major topic and is clearly the root cause of many other
7 communication, culture, and trust problems. Until it is resolved, there is no hope for a
8 comprehensive solution. Some of the findings we have made relative to this include:

- 9 • Almost all parties agree that the original BOG, which was made up of stakeholders,
10 was very effective until the crisis hit in mid-2000. *(Finding III-F1)*
- 11 • The BOG became a divided group, incapable of making major decisions by the fall of
12 2000. *(Finding III-F2)*
- 13 • The FERC's December 15, 2000 order to abolish the stakeholder BOG and replace it
14 with an independent BOG was based on its earlier orders. *(Finding III-F3)*
- 15 • FERC's position on the CAISO was based on overall policy and its history on other
16 related decisions. *(Finding III-F4)*
- 17 • FERC's December 15, 2000 order provided a specific set of steps and attributes for
18 establishing a new, independent Board Of Governors for the CAISO. *(Finding III-F5)*
- 19 • On January 17, 2001, the California State Legislature and the Governor passed AB5X
20 in a Special Session of the legislature, forming a new Board of Governors. *(Finding*
21 *III-F6)*
- 22 • The current BOG has served its purpose during the recent crisis, however, it is not
23 the appropriate governing body going forward. *(Finding III-F7)*
- 24 • Despite the best intentions of the new BOG to be fair and independent, the net result
25 of their inception was a loss of independence by the CAISO. *(Finding III-F8)*

27 **Lack of a Stakeholder Process**

28 The demise of the stakeholder board and the perception of the new board have significantly
29 stymied the input of stakeholders in resolving complex issues. Some of the related findings
30 include:

- 1 • A formal stakeholder input process no longer exists and the informal process is
- 2 ineffective. *(Finding III-F9)*
- 3 • The committee structure to support operations, as required by the CAISO tariff, is
- 4 not in place. This would appear to be both a further cause and outgrowth of the
- 5 stressed stakeholder processes. *(Finding III-F10)*

7 **CAISO Organizational Issues**

8 Our review of the CAISO organization concerned itself with the effectiveness of the
 9 organization, morale issues, turnover, and other problems that are likely to be encountered
 10 when an organization is under stress. Overall, we were impressed with how well the
 11 organization functioned under the incredible stress placed on it. Despite all of the problems,
 12 accusations, investigations, and changes to the industry, the employees and management have
 13 maintained a professional approach and demeanor. The Chairman of the BOG stated in an
 14 interview that after one month on the job he was convinced that the current management team
 15 was the right one and our audit supports that assertion. Some specific findings include:

- 16 • In March 2001, the CAISO was reorganized to better reflect grid operation activities,
- 17 the settlement process, and other market activities. *(Finding III-F11)*
- 18 • There are genuine concerns at the CAISO about employee morale. *(Finding III-F12)*
- 19 • Turnover at the CAISO for the last two years has been reasonable but remains a
- 20 concern. *(Finding III-F13)*

22 **Stakeholder Concerns with Market Monitoring**

23 As stated earlier, there are serious problems with the relationship between the CAISO and its
 24 stakeholders. To some degree this is to be expected with all the litigation and large numbers of
 25 dollars involved. However, our consultants have tried to take these “corporate” positions into
 26 account and have concluded that the problems go beyond that. The issues raised about the
 27 current Department of Market Analysis and the Market Monitoring Committee are illustrative
 28 of this problem.

- 1 • Many stakeholders believe the Department of Market Analysis (DMA) is, at a
- 2 minimum, not independent, and at the extreme, co-opted by management, the BOG,
- 3 and the Governor. *(Finding III-F14)*
- 4 • Due to its location in the CAISO organization, the DMA cannot easily by-pass
- 5 management and report its findings to the CEO, Board, or FERC. *(Finding III-F15)*
- 6 • The MMC has been largely ineffective recently due to current vacancies on the
- 7 committee. *(Finding III-F16)*

9 **CAISO Culture and Processes**

10 We note serious concerns with the ways the CAISO now interacts with stakeholders. Again,
 11 much of this is reactive to the stress and litigation underway, however, its resolution will be key
 12 to long-term progress.

- 13 • The current mission of the CAISO does not meet the requirements of the current
- 14 California energy markets. *(Finding III-F17)*
- 15 • Operation of the California electric system and the associated markets has, in many
- 16 cases, become an elaborate legal process rather than a business and electric utility
- 17 operations process. *(Finding III-F18)*
- 18 • The problems of the past two years have contributed to an internal culture within
- 19 the CAISO that is not fully compatible with the effective execution of its mission.
- 20 *(Finding III-F19)*
- 21 • The CAISO's relations with Scheduling Coordinators (SC) are such that many SCs
- 22 would rather not do business with the CAISO, and those with a choice have indeed
- 23 withdrawn. *(Finding III-F20)*
- 24 • The CAISO does not provide sufficient visibility and transparency with respect to
- 25 much of its workings, including market decisions, operations, and market analyses.
- 26 *(Finding III-F21)*
- 27 •

28 **Compliance With Tariff**

29 While we were concerned with the CAISO's compliance with all tariff provisions in the real
 30 time market, we recognized that issues such as the CERS' involvement as a creditworthy buyer

1 resulted in a broad range of technical violations. We also recognized that these issues were
 2 examined by both the CAISO's auditor, PriceWaterhouseCoopers (PwC) and the CAISO itself.
 3 Further, the actions that resulted in technical violations of the tariff appear to have ceased and
 4 are no longer a problem. Therefore, we relied on the results of the previous work to address
 5 this topic.

- 6 • The 2001 Operational Audit was noteworthy for the large number of CERS related
 7 tariff violations it identified. *(Finding IV-F1)*
- 8 • CAISO management recognized the potential problems created by CERS and
 9 appropriately initiated on its own behalf a review of CERS-related transactions.
 10 *(Finding IV-F2)*
- 11 • CAISO management and legal department initiated their own investigation of the
 12 transactions CERS was entering into in order to assure that all transactions were
 13 appropriately documented and issues were fairly resolved. *(Finding IV-F3)*
- 14 • The CAISO does not have a well-developed procedure for responding to the
 15 findings in the PwC Operational Audits. *(Finding IV-F4)*

16
 17 Our consultants did audit several other aspects of the tariff and have developed a number of
 18 findings and related recommendations:

19 **Posting**

- 20 • The CAISO complies with the posting requirements of the tariff. *(Finding IV-F5)*

22 **IT Issues**

- 23 • Much of the CAISO IT costs can be traced to the complexity of the operation,
 24 including the settlement process. *(Finding IV-F6)*
- 25 • The ongoing reorganization of IT is a very good step in addressing the concerns of
 26 the user community. *(Finding IV-F7)*
- 27 • IT costs cannot be significantly reduced until the MCI/WorldCom contract expires.
 28 *(Finding IV-F8)*
- 29 • After factoring out the MCI/WorldCom contract costs, CAISO IT costs in most areas
 30 are reasonable. *(Finding IV-F9)*

- CAISO IT currently lacks fundamental strategic plans and operational metrics necessary to manage the business. *(Finding IV-F10)*
- The CAISO's requirements for a reliable functional backup facility are being suitably met by the Alhambra facility. *(Finding IV-F11)*

Financial and Accounting

- The CAISO's books and records associated with the grid management charge are maintained in accordance with tariff requirements. *(Finding IV-F12)*
- In its 2002 GMC filing, the CAISO is altering two of the three service categories. *(Finding IV-F13)*
- Rates for two of the GMC service categories are increasing substantially for 2002. *(Finding IV-F14)*
- The CAISO's reserve requirement is set at the level specified in the CAISO tariff. *(Finding IV-F15)*
- In contrast to many peer ISO's, the CAISO financed all of its transition costs; thus financing costs are higher for the CAISO than other ISO's. *(Finding IV-F16)*
- The CAISO's loss of a creditworthy bond rating prevented it from issuing bonds in 2001 and constrained its capital spending. *(Finding IV-F17)*
- Requirements for creditworthiness are clearly detailed in existing tariffs and subsequent amendments. *(Finding IV-F18)*
- The complexity of the CAISO's operations results in a highly detailed, complex settlements process. *(Finding IV-F19)*
- The volume of transactions has resulted in a higher level of staffing for client services, including the settlement function, than at other ISO's. *(Finding IV-F20)*
- Manual settlement transactions add a level of vulnerability to the settlement process. *(Finding IV-F21)*
- A review of the most recent annual statements indicates concerns regarding the CAISO's ability to continue as a going concern. *(Finding IV-F22)*
- The most recent year-to-date financial statements portray a stronger financial position than the 2000 annual financial statements. *(Finding IV-F23)*

1 **Creditworthiness Issues**

2 Another major issue that must be resolved for a successful restructuring of the California
3 energy system is creditworthiness of the major stakeholders. Our approach here was to
4 examine the current status of each major stakeholder with problems and then to provide some
5 broad recommendations as to required actions.

- 6 • The lack of creditworthiness on the part of the key parties inhibits long-term
7 solutions to the California energy crisis. *(Finding IV-F24)*
- 8 • Since the appointment of the current Board of Governors, the CAISO has not had a
9 CAISO Audit Committee in place, and there is currently no direct reporting
10 mechanism between the Controller's office and the Board. *(Finding IV-F25)*
- 11 • The CAISO has estimated and is collecting funds for the FERC annual charges.
12 *(Finding IV-F26)*
- 13 • The CAISO has recently begun collecting payments owed by CERS and has
14 escrowed approximately \$31 million (at the time of the report), pending resolution of
15 a payment issue by the FERC. *(Finding IV-F27)*

17 **Complexity of Market Design**

18 The current market design is complex and unworkable. The CAISO is once again initiating a
19 project to consider design alternatives. Our audit provides feedback from many parties on the
20 importance of getting the rules right and including all stakeholders in the process. Some of the
21 related findings include:

- 22 • The dispute resolution process seems to be functioning, but is seriously burdened by
23 the volume of disputes and the complexity of the bidding and settlement processes.
24 *(Finding IV-F28)*
- 25 • The operational and market issues identified above should be given careful
26 consideration in efforts to redesign markets. *(Finding IV-F29)*
- 27 • Comprehensive market reform is necessary to restore viable, transparent electricity
28 markets in California. *(Finding IV-F30)*
- 29 • To develop a viable comprehensive market reform, it will be necessary to first
30 revitalize an effective stakeholder process. *(Finding IV-F31)*

- 1 • There is broad agreement that CAISO would be better served if all LSE's were
- 2 required to procure adequate capacity reserves. (*Finding IV-F32*)
- 3 • The structure of the current market design is overly complex and leads to many
- 4 operational, communications, and cost issues. (*Finding IV-F33*)
- 5

6 **Generators and Municipal Power Findings**

7 During our discussions, the issue of the image of the generators and of municipal powers
 8 involvement arose. We have included some details on the issues as well as recommendations
 9 for consideration.

- 10 • Public perceptions have damaged the image of the generators and, therefore, the
- 11 public's confidence in the market as a whole. (*Finding IV-F34*)
- 12 • The public power sector, which represents a substantial amount of California
- 13 supply, load, and transmission, should be an integral part of any industry design
- 14 that purports to optimize California's resources. (*Finding IV-F35*)
- 15

16 **SPECIFIC RECOMMENDATIONS**

17 This is a comprehensive list, summarizing all sections of this report. Obviously, it would be
 18 impossible to implement all recommendations over the same time frame. Therefore, these
 19 recommendations would need to be prioritized. Not all recommendations can be implemented
 20 by FERC. Many will require cooperation and actions by various California regulators and
 21 agencies.

- 22 **III-R1** Establish a new and independent Board of Governors, along with a formal
- 23 Stakeholder Committee. (Refer to Findings III-F1, III-F2, III-F3, III-F4 and III-F8.)
- 24 **III-R2** Develop a plan for creating an independent board that meets all needed criteria.
- 25 (Refer to Findings III-F5, III-F6, III-F7, III-F9 and III-F10.)

- 1 *III-R3* Define in very certain terms the role of the Department of Market Analysis (DMA)
2 and strengthen its independence by implementing procedures permitting it to
3 bypass its regular reporting relationship and report directly and simultaneously to
4 the CEO, the BOG, or FERC. (Refer to Findings III-F14 and III-F15.)
- 5 *III-R4* Examine options for addressing long-term market analysis of the entire WSCC.
6 (Refer to Finding III-F16.)
- 7 *III-R5* Modify the mission of the CAISO to reflect an appropriate role in the electric market
8 of California and the west. (Refer to Finding III-F17.)
- 9 *III-R6* Implement specific management programs to change the culture and processes at
10 the CAISO so that they address the needs of stakeholders. (Refer to Findings III-F18,
11 III-F19, and III-F20.)
- 12 *III-R7* Improve communication between FERC and the CAISO by increasing on-site
13 presence and facilitation of communications with stakeholders. (Refer to Findings
14 III-F21 and III-F22.)
- 15 *IV-R1* Establish formal procedures for following up on the findings and recommendations
16 from the operational audits and other formal audits and reviews. (Refer to Findings
17 IV-F1 and IV-F4.)
- 18 *IV-R2* Conduct further analysis into the benchmarking data and develop specific action
19 plans to address those areas of high costs. (Refer to Finding IV-F9.)
- 20 *IV-R3* In concert with users and in coordination with overall corporate business plans,
21 develop a formal strategic IT plan. (Refer to Finding IV-F10.)
- 22 *IV-R4* Implement efforts to return the CAISO to a creditworthy level. (Refer to Finding IV-
23 F24.)
- 24 *IV-R5* Support financial and creditworthiness restructuring activities vis-à-vis SCE. (Refer
25 to Finding IV-F24.)

- 1 *IV-R6* Implement a short term means for PG&E to return to creditworthiness. (Refer to
2 Finding IV-F24.)
- 3 *IV-R7* Simplify the settlements process as part of an overall market redesign. (Refer to
4 Findings IV-F19, IV-F20, and IV-F21).
- 5 *IV-R8* Establish a direct reporting relationship between the Controller's office and the
6 Board of Governors. (Refer to Finding IV-F25.)
- 7 *IV-R9* Enhance control over off-line calculations in the settlements process. (Refer to
8 Finding IV-F21.)
- 9 *IV-R10* Develop an approach to accomplish a comprehensive market reform that includes
10 effective input from stakeholders. (Refer to Findings IV-F29, IV-F33, IV-F31, IV-F32,
11 and IV-F33.)
- 12 *IV-R11* Pursue additional steps at FERC to prohibit generating companies from engaging in
13 any anticompetitive behavior. (Refer to Finding IV-F34.)
- 14 *IV-R12* Re-initiate efforts in future market design to bring public power into the fold of an
15 integrated California solution. (Refer to Finding IV-F35.)

16 **A POTENTIAL PROCESS FOR RESOLUTION**

17 We have discussed the five elements of the solution in Sections B through F of the Report,
18 which can also be characterized as root causes. Each of the five represents a serious deficiency,
19 any one of which can cause the overall system to fail. In fact, each played a significant role in
20 the 2000 collapse of the system.

21 It is interesting to note that the elements interact, and this forms the basis for our conclusion
22 that only an integrated approach and a coordinated solution can succeed. Can fiscal stability be
23 returned to the market without jurisdictional cooperation? Can an effective market design be
24 derived in the absence of effective interactions and jurisdictional cooperation? Can any design
25 work without an "independent" system operator? Can the interaction processes be repaired

1 without a clearly defined and accepted role for the CAISO? These questions represent but a few
2 of the permutations, but they illustrate the importance of seeking an integrated solution.

3 This interdependence issue is perhaps challenged by the conventional wisdom that “market
4 design” is the problem and an effective redesign is the first and foremost priority. Although we
5 received this message from many players whose judgment commands respect, we nonetheless
6 must disagree. This narrow view avoids dealing with the other interrelated aspects of the
7 problem, most of which flow from human and institutional interactions. Only an holistic
8 approach that effectively deals with all of these compelling issues will lead to the necessary
9 solutions.

10 **A SUGGESTED PROCESS**

11 In seeking a pathway to solution, we envision three key ingredients

- 12 a. a focus on the five elements of solution (as discussed above), which center
13 around the root causes of the key problems
- 14 b. a process for working together
- 15 c. leadership, perhaps more correctly characterized as facilitation, to make it all
16 happen.

17 Realistically, we understand that some stakeholders may read no further, attributing these
18 conclusions to naiveté and a lack of understanding of the current relationships. They may
19 argue that the relationships and conflicting objectives among government, regulatory and
20 industry players are such that any integrated approach is doomed from the start. We counter
21 that there is indeed a basis for industry cooperation, and that the parties increasingly have
22 common interests. We suggest that the process of facilitation begin with those common
23 objectives and understandings. For example, the following may be considered as motivation
24 and encouragement for working together:

- 25 • The stakes are too high to allow partisanship and turf battles to rule, and the parties
26 increasingly accept and respect that point of view. The irreparable damage already
27 done to California’s economy cannot be allowed to happen again. We believe that
28 the leadership of the various groups are ready to cooperate.
29

- 1 • As discussed earlier, we sense that many of the combatants are tiring – the time for
2 compromise may be at hand.
- 3
- 4 • The complexity of the current structure defies all but the most astute observers.
5 There is general agreement that any changes that simplify matters can receive broad
6 support.
- 7
- 8 • There is mutual understanding that the consumer has been the big loser and that any
9 future fixes must do a far better job of protecting the consumer's interests. All
10 parties seem to understand this basic tenet, thereby mitigating (although not
11 eliminating) some of the conflicting objectives.
- 12
- 13 • The "state of the art" has grown in past years, providing an improved basis for
14 decision-making. Although perfect solutions have not been defined, there is a much
15 greater body of knowledge on what works and what doesn't. This will contribute to
16 a narrowing of differences among the parties.
- 17
- 18 • Most parties seem to accept their roles, at least privately, in the debacle of 2000.
19 They recognize that, with the benefit of hindsight, they might have done some things
20 differently. There is an increasing awareness that there is plenty of blame to go
21 around, and there is little more to gain from the blame game.
- 22
- 23 We believe that these realities all represent some degree of common ground and, therefore,
24 could be a foundation for progress. They represent a set of forcing factors that tend to
25 counteract the existing constraints to an integrated approach. We see reason for optimism and
26 now look to the three ingredients (the five elements, the process for working together, and
27 leadership/facilitation by FERC) to make it happen.
- 28 A solution that restores confidence in the system and places the industry on a sound footing
29 that facilitates future efficiencies for consumers is essential. To suggest that the leaders of the
30 industry are unaware of this challenge, or are not addressing it, would be a serious disservice.
31 Actually, the contrary is true, as evidenced by the hard work of customers, as well as many

- 1 relevant organizations, including but not limited to, FERC, the State of California and CDWR,
- 2 the California PUC, and the CAISO. We doubt that anyone can argue with this objective, yet
- 3 many might question if it is indeed achievable in the current environment.

- 4 We believe a solution is possible, but only through a broad-based, coordinated process that
- 5 effectively integrates the interests of all the parties.

Mr. OSE. Thank you, Mr. Drabinski.

Let me just go through this. Our witnesses, we have the chairman of the Federal Energy Regulatory Commission, Mr. Patrick Wood, we have Mr. Terry Winter, who is president and CEO of the California Independent Systems Operator, we have Richard Drom, who is the vice president and general counsel for the Pennsylvania, New Jersey, Maryland Interconnection, we have James Feider, who is the president of California Municipal Utilities Association, we have Jan Smutny-Jones, who is the executive director of the Independent Energy Producers, and Walter Drabinski, who is the president of Vantage Consulting, who wrote the audit that we've become so familiar with. I want to thank you all.

Gentlemen, I did not adequately and appropriately introduce you prior to your testimony, for which I apologize.

Now, we've had previous witnesses testify and I asked them a number of questions about the market mitigation plan; some of you I am going to ask similar questions.

Mr. Winter, did the market mitigation plan work?

Mr. WINTER. I think as some folks have said we are now in the perfect calm and that had a lot to do with it. Did the market mitigation work? Yes, I think so. It identified a must-offer component that put in the market units that for whatever reasons may have not been there before. Clearly in the West, it forced them to deal with the supply that we needed in California.

I think probably the threat of hitting different price levels within their mitigation plan had a lot to do with people wanting to make sure that didn't occur, because as gas prices dropped from \$15 down to around \$60 or something, that trip wire would have caused the price to drop dramatically.

So, yes, I think it helped. I don't think it was the only thing. I think the availability of power, more hydro, etc., we were importing a year ago this time anywhere from 1,000 to 2,000 megawatts, now I'm importing anywhere from 8,000 to 9,000 megawatts. That makes a tremendous difference.

Now, some of that is due to long-term contracting, most of it is due to available hydro in the Northwest and additional capacity in Arizona. So, I can't just say by itself it did everything, but it's something I would want as a back stop as we move forward, if we do not have a new design completely put in place and the financial ability of people to protect their positions is not there.

Mr. OSE. Mr. Smutny-Jones, same question, is the mitigation plan working?

Mr. SMUTNY-JONES. I think the market fundamentals had a lot more to do with driving prices down and stabilizing the market than did the market mitigation plan.

What troubles me most is that while the market mitigation plan was designed to be a short-term solution to a problem, we are still not addressing the underlying problem. And we can argue about whether or not we need to leave the band-aid on any longer, but I think we need to be dressing, if you will, the wound, and we are not doing that. And, that really is at the heart of the issue.

We, as I said, have spent literally 4 years arguing about price caps, which was an early form of the price mitigation measure, and we are having the wrong debate. What we should be doing is mak-

ing sure that there's adequate tools that address the types of price run ups that we have seen, and if you do see something that's causing the market some trouble, that's relatively limited in terms of its impact and duration.

Mr. OSE. So, Mr. Winter, you believe that there's some value to continuing the market mitigation plan, Mr. Smutny-Jones you think there are limitations to continuing the market mitigation plan.

Mr. SMUTNY-JONES. Yes, I do, I think we would be better spending our time between now and September 30th coming up with something that obviates the need for the current market mitigation plan that's in place, and my concern is that times a wasting and we are not focusing on those issues.

Mr. OSE. Mr. Winter.

Mr. WINTER. I would like to respond to that from this standpoint. One of the things that I think is crucial as we go forward is what we are calling the capacity, you know, the A-cap design component. I find it very difficult to justify that in an arena where I have a bankrupt entity that I'm asking to now go out and buy capacity, and yet it has no financial wherewithal to do that.

And so, while I agree totally with Jan, my concern is that we are not able to get the proper balance until such time as those entities become financially capable to enter into those negotiations on an "even" basis, so that you have the supplier with some competition and the buyer with the ability to shop the market, rather than be held hostage to any one person.

Mr. OSE. Chairman Wood, would you comment on the reasons why FERC has set a deadline of September 30th for the market mitigation plan?

Mr. WOOD. Well, quite frankly, the State government in their pleadings last year asked for two summers, and so rather than do August 30th we did September 30th, just to get through the full summer.

So, that was longer than I think we were inclined to do at the FERC, but we all voted for that, and we supported that date, and I think we stuck to it, but I think we also, as Mr. Smutny-Jones just pointed out, made that kind of cooling off period time so we can get some healing done here, get new infrastructure on the ground, and get market rules rewritten.

And, I should add some observation that attached to Terry's was a good chart that he had, that the California ISO and their staff had put together as a draft for discussion by parties out here, that I think clearly is a very positive step forward in getting that done.

Time is short, but quite frankly we do need an incentive to get this done, and the expiration of that date at the end of the summer is to me a tight timeline but sufficient to get going. There's a certain level of detail in this document in the detail that the Commission is talking about for national standards, so clearly they've got that going and I think it needs to be converted into some detail. I certainly envision that the Commission, through its staff, will be helping to participate in that effort, but I do think that, really, a lot of the right things are in the plan here, and I just would encourage Terry and all the folks out here to really take this seriously and move forward on that in an aggressive timeframe.

Mr. OSE. Do you think the deadline serves a valid purpose then?

Mr. WOOD. Yes, sir.

Mr. OSE. I want to go on to the independence, the purpose for which Mr. Drabinski was engaged. Chairman Wood, why did FERC think it necessary to commission an audit of CAISO? I mean, is this unusual? Is it unique?

Mr. WOOD. It's our first, it won't be our last. I think we view the ISOs as real extensions of Federal Power Act authority to the regions. As I mentioned, it's unusual California happens to be a region contiguous with the boundaries of the State, but the other ISOs that are up and operating and the new formed Midwestern RTO cover multiple states, and I expect that we, in our responsibility, fiduciary and otherwise, to the American people, want to make sure that these organizations work well.

This is one that clearly was under a significant amount of stress. Issues were raised in a significant number of pleadings that when I came to the Commission inherited about the independence issue that was written up substantially here and has been discussed today.

And, I really, quite frankly, for me, I know the other Commissioners might have their own reasons, but I needed just some objective eyes to look at this, kind of outside of the policy realm, and tell me exactly what is the implication of how this organization is running on the effectiveness of that market.

Mr. OSE. And, I presume that if circumstances arise elsewhere in the country where you have similar concerns, audits there will be requested, too?

Mr. WOOD. We may not wait for there to be a stress or crisis there. I think it's probably something we want to do routinely. In fact, I've set up an Office of Market Oversight and Investigation that will be kind of continuing liaisons with the market oversight institutions, which is a part of what the ISO does, but I expect that we'll use our allocated resources from Congress to keep good tabs on all the ISOs, up in New England, New York, Midwest, PJM as well.

Mr. OSE. Tell Mr. Drom, not me.

Mr. Drabinski, I've read the audit, I want to hear in your own words your description of the level of the independence of the Board of Governors to CAISO.

Mr. DRABINSKI. Certainly.

Let me start out by saying, we weren't retained to look at the independence issue. We were retained to audit the tariff.

Mr. OSE. But, you did get some input on it.

Mr. DRABINSKI. Well, it was clear from the get-go that it was a major issue, however, we were taking a much broader approach. What constantly rose to the surface as we interviewed management, middle-level employees at the ISO, as we talked with the various players within California and the major load serving entities and generators, is that the issue of independence just came up and it became the linchpin issue that we needed to address.

Mr. OSE. Now, Mr. Wright earlier today cited an example where somebody working at Semptra didn't have a comprehensive view of the whole picture and they, frankly, made some comments that proved to be inaccurate. To what degree can you satisfy our con-

cerns that the feedback you received on governance was not, or lacked knowledge of the larger picture?

Mr. DRABINSKI. Well, I think by the breadth of our interview and analysis; we looked at all of the board meetings, all the decisions from the original stakeholder ISO through to the existing board. We looked at the types of issues that they face, the decisions that were made and not made. We interviewed all of the senior management with specific questions, as to whether they believed the current board was (A) independent and (B) addressing the short-term and long-term decisions that needed to be addressed.

But then, we went out and we talked to every major generator and every load serving entity. I say we talked with them, we went to Houston, we had conference calls in Salt Lake City, L.A., San Diego, San Francisco, Washington; we were flying all over the country over a period of 2 or 3 weeks. In each case, we would sit down with a group of as many as 8 or 10 representatives of Reliant, and Mirant, and Dynegy, with people from—regulatory people right on down to the nuts and bolts operations people. So, there was such a consistent message from every level, from every type of organization that we spoke with, that there was no question in our mind very quickly that the perception of independence, of lack thereof, existed with virtually every player that has to deal with the ISO on a regular basis.

Mr. OSE. Were these interviews—obviously, you kept the notes, but in reading the audit the identities of the people participating were kept out of the audit.

Mr. DRABINSKI. We did that intentionally. We did not want any individuals to be reluctant to speak freely because their name would be included in the report. We have the notes that we took.

Mr. OSE. You took input from all sorts of market participants, did you visit with Mr. Winter, or did you visit with anybody who works with Mr. Winter?

Mr. DRABINSKI. We interviewed 25 people at the ISO, including, I believe, we interviewed every officer, most of the department heads, the chairman of the Board of Governors, one of the other members of the board. We submitted numerous information requests with specific questions that needed to be answered in detail.

We had a number of meetings with the entire management of the ISO.

Mr. OSE. So, it was full-scale, it was comprehensive.

Mr. DRABINSKI. Oh, absolutely.

Mr. OSE. I mean you didn't just take one side, or this side, or that side.

Mr. DRABINSKI. We met with representatives from the Electric Oversight Board. I met with Mr. Smutny-Jones as a representative of the industrial generators. I met with a representative of CDWR. We had a number of meetings with the CPUC.

Mr. OSE. Right. My concern was the comprehensive nature of who you met with.

Let me ask you a question. From your interviews, what types of operational problems arose that the people you interviewed attributed to a lack of independence?

Mr. DRABINSKI. There was a general consensus that while the operational people at the ISO would oftentimes reach a one-on-one

consensus of what needed to be done, but then it got around to the legal and regulatory flagpole and went to the board, and somehow things got changed and stopped, and the view was that all the people in the pits at the ISO were trying to do the right things, often-times there was direction from the Board of Governors that precluded them from implementing what they would have liked to have implemented.

Mr. OSE. Well, how is that unusual? I'll give you an example; I get all sorts of suggestions from my staff about what I should or shouldn't do. Sometimes I do it and sometimes I don't. I mean, why is that unusual?

Mr. DRABINSKI. I think the difference here is that we operate an electrical system; it's done on an instantaneous, minute-by-minute basis. Typically, once the rules are set the people in the field work out deals, they are cutting deals, buying and selling, making sure that the lights are on. When a deal is cut, and the details of the transaction are agreed upon, that's pretty much what they are.

And there's very seldom a legal representative or some senior management person then coming back and saying, no, we're not going to do it that way, or we're changing the way we interpret the rule, and the view of many of the participants were that often times there were people in the back room who were stepping in.

Mr. OSE. The interviews you conducted indicated there were people in the back room?

Mr. DRABINSKI. That's correct.

Mr. OSE. All right. Thank you.

Mr. Smutny-Jones, your members are independent energy producers, they deal with this on a day-to-day basis. Can you give us some examples of how this lack of independence is hampering either your operations or the function of the market as a whole?

Mr. SMUTNY-JONES. I think the best example, actually, you talked about previously with Mr. Wright and Mr. Pescetti, which is this maintenance standard issue.

Last year, the Governor actually issued an Executive order that there become a maintenance coordination and maintenance standards be set. The ISO went to work doing that; my members spent a significant amount of time and energy in the stakeholder process to put together both a coordination protocol and some standards.

The coordination protocol was filed at FERC. They did adopt it. The standards, basically, were adopted by the Board of Governors of the ISO on November 7th of last year, and my understanding, with the instructions that staff solicit input from the members.

Mr. OSE. November 7, 2001?

Mr. SMUTNY-JONES. Correct, and solicit opinions from the Public Utilities Commission, which by the way, could have, and maybe did participate in the promulgation of the standards in the first place.

That was on November 7th. We had been involved in this battle with regard to the proper role of the PUC with respect to inspections of power plants throughout last year and into the beginning part of this year. We still do not have those standards filed at FERC. Let me be very specific, I have no evidence that anybody has told Mr. Winter do not file those documents, but I think that there is the concern about, and this is what I meant by an excessive deference to the Public Utilities Commission. Those standards

need to get out there so they can be approved and we can get on with making sure that these power plants are operated according to standards that everybody understands.

Mr. OSE. Let me make sure I understand. The November 7th document you are talking about, were they draft standards?

Mr. SMUTNY-JONES. My understanding was these were standards that were voted upon by the Board of Directors. Our opinion is that they are ready for prime time, and that the staff was asked to coordinate with other agencies, which is fine, but again, we are now at the end of February and it's time to get down to the business of getting those maintenance standards in place.

Mr. OSE. So, give me some examples of how the lack of these maintenance standards is impacting you.

Mr. SMUTNY-JONES. Well, right now there's a significant amount of a grand conspiracy theory, that somehow people are breaking their power plants to adjust prices in the wholesale market. I think the facts do not demonstrate that at all, in fact, these power plants run significantly higher in 2000 and 2001 than previously. But that aside, people do take their power plants out for specific maintenance requirements, and what would be nice is a set of standards where people could basically say, we took our plant out according to a schedule that we submitted to the ISO for the following reasons to address the following issues, and there's no question that the power plant needed to go down for maintenance.

We don't have that right now. As Mr. Wright indicated earlier, the PUC has apparently conducted about 800 inspections. To date, we don't believe they've found anything because they haven't reported in the public record any problems they found with the maintenance of power plants. But, this still hangs over the overall ability of generators to take plants out when they need to, basically, provide basic maintenance.

Mr. OSE. All right.

Mr. Winter, is Mr. Smutny-Jones accurate in the sense that the ISO board did adopt maintenance standards on November 7th? Is that accurate?

Mr. WINTER. I do not remember whether we had a board meeting on November 7th. I thought it was near the end of the month.

Mr. OSE. But, they've been adopted.

Mr. WINTER. I could be wrong.

Mr. OSE. OK. So, let's say on or before November 30th.

Mr. WINTER. OK.

Now, what you have to understand is, what we bring to the board is a program, and I would like to go into the maintenance standard because I think it's an example of a lot of things that can happen, but just very quickly, our process is that we develop a program and go to the board and say, "board, we would like to have your approval to prepare the documents to go to FERC." And so, the board—and again, I'm sorry, Jan, I don't remember exactly which day it was, but the board, at that time, said that yes, they really liked the program we had put together, but would we please get with the PUC and the regulatory EOB and others and discuss what changes they would like in them.

At the same time, we began to prepare what we call the final language that we then have to file at FERC. At the time it's a pro-

gram, it is nothing but a program, then we have to prepare all the legal language that then makes it acceptable where FERC can look at it and say, yes, that's in your tariff, or it's not in your tariff, or it's in your protocol.

So, between November the—let's say the 28th, we began preparing that; we call it FERC language for short cuts, and during that time we met with the PUC. They wanted some things, and we could not come to an agreement of whether or not we were going to put in some of the requests that they had.

In the meantime, we had the stuff going through the legislature. Coupled with that, I was given some very strong instructions from the board that we had to start cutting our cost. Generator maintenance was not a program that the ISO looks at as part of its core business, and the reason it doesn't is we are very, very concerned about the scheduling. We schedule with transmission lines and generators almost 38,000 outages a year, and have to combine all of those. So, up until last year we didn't have authority to do the scheduling.

We filed at FERC, they gave us that authority. We now have the authority to handle the schedules, but the maintenance of the generation, all I am really concerned about is an availability factor. If the unit is available 92 percent of time, that's a good standard, that's what people do. I don't necessarily have to go in and inspect the plant and work on it, but because the Governor had asked that we develop this plan we went ahead and did what we call a preventive maintenance plan, and to do that we involved the generators and everyone else and we felt that was a good way to go.

Who does it did not matter to the ISO, whether it's the PUC or ourselves.

Mr. OSE. I think you bring up an excellent point. You are responsible for scheduling.

Mr. WINTER. Right.

Mr. OSE. How can you schedule if you don't also align the schedule with the maintenance programs?

Mr. WINTER. OK. The way we do that is, the generator comes to us and says, "We want to schedule an outage for such and such a timeframe."

Mr. OSE. Right.

Mr. WINTER. What normally happens is, they all want to group around different periods of time, in other words, 2001, after we had run the units hard all summer, October, everybody wanted to go out, and that's what brought us to filing to FERC to allow us to schedule those.

What we do when we get that request is, we ask why are you taking it out? And, they will give us several reasons. One is, boiler tube leaks. Some will be, I split the tubes and I'm taking it out no matter what, because it's not operational. Some will be for preventive maintenance or annual maintenance on a unit, and they will ask for 4 weeks. Others will say air quality modifications that we have to put on. So, we take all of those, put them on a large scheduling chart, and then we start calling the generator and say, OK, you want preventive maintenance, you need 3 weeks, we agree everybody needs 3 weeks once a year, can you shift it to December instead of October 15th?

So, I don't have to know all the details of their maintenance program to actually schedule them, all I am is a big clearinghouse that's trying to make sure that they get their time for maintenance, that they get their time for whatever happens.

Mr. OSE. OK, so you don't need to know why they need to go off, you just need to know whether they need to go off.

Mr. WINTER. And when they want to.

Mr. OSE. And when, right.

Mr. WINTER. And then, I try to work with them to make sure that they get the time they need, at the same time not letting everybody go at once.

Mr. OSE. You are responsible for scheduling—

Mr. WINTER. That's correct.

Mr. OSE [continuing]. When the plants are up or when they are coming up?

Mr. WINTER. I have to maintain that authority, because I'm balancing it with transmission line outages, and, you know, we do several hundred a day that we're switching out.

Mr. OSE. So, why are we waiting on the PUC on the maintenance standards?

Mr. WINTER. Because they are really not an issue that I have to have before the FERC. I mean, I have the authority to do the scheduling now.

Mr. OSE. But, you can't schedule without knowing what the maintenance schedules are.

Mr. WINTER. Well, they will tell me, the generator will come in and tell me what the maintenance schedules are.

Now, the question is, do we, as either the PUC or the ISO, need to get in and determine whether these are appropriate maintenance issues.

Mr. OSE. You need their authority to make that decision.

Mr. WINTER. That's right.

Mr. OSE. But, apparently, the PUC is electing to make the decision.

Mr. WINTER. Correct.

Mr. OSE. As to whether or not to supercede, for instance, the manufacturer's recommended run rate and what have you.

Mr. SMUTNY-JONES. And, that's a problem.

Mr. OSE. I'm sorry?

Mr. SMUTNY-JONES. That would be a problem. That would be a serious problem.

Mr. OSE. Well, why wouldn't the PUC be able to dictate to the manufacturer what the run rates on the equipment should be?

Mr. SMUTNY-JONES. I think you'll end up with a lot of broken equipment. I do not believe that the PUC has any fundamental basic expertise in that area. I think what is important about all this is that we have a commonly understood set of standards, so if someone takes their plant out to fix a boiler tube everybody knows why that's important.

Mr. OSE. OK.

Mr. SMUTNY-JONES. And it is coordinated. Believe me, we believe that coordinating the schedule of outages is a very important thing. It's a positive thing, but we need one set of standards, not two. We don't want a set of standards that the ISO has in place, and then

a second standard that the Public Utilities Commission has in place.

Mr. OSE. All right, let me cut to the chase. How do we—quit the mumbo jumbo and get it to the point where he can schedule and you can run?

Mr. SMUTNY-JONES. We have a schedule and what we would like to see is the tariff amendments that we understand have already been adopted by the board filed. If the PUC has comments that they want to make on those, they are perfectly capable, just like we are, to make them in front of you.

Mr. OSE. You just said you haven't adopted tariffs, you have adopted scheduling only.

Mr. SMUTNY-JONES. There's two sets of issues here, Mr. Chairman, let me see if I can clarify this. There is a coordination protocol, which I believe was filed some time earlier last year, April/May timeframe. I may have these dates wrong, but don't hold me to that, but that coordination tariff the FERC has already given Mr. Winter the authority.

The second sort of prong here is maintenance standards, in other words, an identified sort of understanding of how plants will be maintained, to assure their availability to the ISO. That is what is in dispute here.

There is, as I said, a separate political effort in legislative to give what we view as an extraordinary power to the Public Utilities Commission to adopt maybe even different maintenance standards, and we can't live in a world where you've got two different maintenance standards. That's the issue.

Mr. OSE. Mr. Drom, how do you handle this at PJM?

Mr. DROM. All the generators are required to coordinate their schedules in advance with us, and we approve the coordination. As Terry was saying, they do it with the CAISO, to ensure that there is reliability at all times.

We do not need the authority to force people to maintain facilities at particular times, because we have a collaborative model where we get everybody in the room together and say, OK, everybody wants to do it October 15th, how can we solve this problem? People volunteer for different times and then we work it out voluntarily.

Mr. OSE. So, from your perspective, do you or do you not think there's any reason to go ahead and file this scheduling?

Mr. DROM. I think that's beyond my level of expertise. I mean, the issue of whether generators should have specified criteria seems to be a hot issue in California, because, as Jan has said, there are allegations that people are doing it improperly.

In our area, there's no allegations like that, we have a very effective market monitoring unit which verifies issues like that and does studies, and we have not found any instances where any generator in PJM has intentionally withheld like that because of alleged maintenance problems.

So, our situation is different than California.

Mr. OSE. All right. Well, I have to admit there's some confusion as to why it is we can't move this ball forward.

Mr. Drabinski, again, I've read your audit. You have at least passive familiarity with the many challenges we have here in California. Is the Board of Governors of the ISO effective?

Mr. DRABINSKI. No.

Mr. OSE. How do we fix it?

Mr. DRABINSKI. Well, I think the fix is to implement a board of Governors, and I say no for the long run, for the long-term solution, the answer is no. I think over the last year they've faced a challenge that they had to do, going forward you need a board of Governors that, first of all, is perceived to be effective, by all the players, so that you then get input and involvement on an active basis by the players, not strictly to legal challenges.

You need a board of Governors that begins to look at long-term strategies, long-term capital, budgets, market reform issues, with the expectation that they are going to be there for some years.

Mr. OSE. How do you ensure that occurs? I mean, the PUC guys, they serve specified terms.

Mr. DRABINSKI. Well, I think, let's look at the existing board. All of the existing board thought that they were brought on in a stop gap measure until the crisis was solved.

Mr. OSE. Is that what they told you?

Mr. DRABINSKI. The chairman told me he didn't expect to be there more than a few months. And, I think I read something recently where after reappointment Mr. Flosio made a comment that even criminals are paroled occasionally, and I'm paraphrasing that.

So, I mean—

Mr. OSE. You are not saying anybody is doing anything inappropriate.

Mr. DRABINSKI. Oh, no, no, no.

Mr. OSE. OK.

Mr. DRABINSKI. Their point was, they expected to be brought on for a short period of time, while the crisis was resolved, and then they could go on to their normal lives.

When you bring in a professional board, you are bringing in a group of people who are brought on, they are receiving some compensation, they have specific expectations. The firm that does the selection are selecting people who know that they are—

Mr. OSE. Describe the characteristics of a professional board. We know what the characteristics of the existing board are; describe the characteristics of a professional board.

Mr. DRABINSKI. Well, it typically would be individuals who have a general level of professional expertise in the areas of banking, whether it be legal banking, financial, engineering, education, energy.

Mr. OSE. Why would you put a banker on the board of Governors for the CAISO? Why wouldn't you put an energy person, either on the consumer side or—

Mr. DRABINSKI. Well, I think you would want one of each.

Mr. OSE. Do we have that now?

Mr. DRABINSKI. No, without looking at the resumes of the existing five, I don't believe—first of all, you would not have anybody on the board that probably has a vested interest in, oh, industrial activities in California. So, most boards generally have people who

are either from outside the State or if they are within the State they are academic experts or retirees.

Mr. OSE. Let me interrupt here.

Mr. Drom, how do you deal with this at PJM, your Board of Governors?

Mr. DROM. Yes, our board was established by an independent consultant based upon the protocols in the operating agreement, page 3 of my testimony lists that corporate leadership is one of the elements, professional disciplines of finance or accounting, engineering, utility laws and regulation, transmission dependent utility experience, experience in operation, planning of transmission systems, commercial markets, trading, risk management. We don't have a single category for each individual board member. We just have a group of characteristics and we try to fill a board that has all of those traits. And, our current board actually does demonstrate every one of those traits.

Mr. OSE. OK. There's a chart on the podium right behind Mr. Drom and Mr. Feider; can we go to the overhead please? You just need to move it right down in that white square. There you go.

Does this accurately reflect what you are talking about in terms of skill sets and the like?

[The information referred to follows:]

Exhibit III-1
ISO and RTO Independence Traits

Comparative Criteria	PJM	NYISO	ISO-NE	MISO	Grid Florida	Grid South
Gov. Bl.	Made-up of independent members.	Made-up of independent members.	Made-up of independent members.	Made-up of independent members.	Made-up of independent members.	Made-up of independent members.
Number of Members	7 Members, plus non-voting President	9 selected members plus 10% (ISO Pres)	9 selected members plus 10% (ISO Pres)	7 Members, plus voting President	9.8 chosen by Committee. Chair chosen by 1+8	7 Members; 6 outside selected by Comm.
Who Selects	Members Committee	Selection Committee comprised of 16 members	Nominating Committee. 10 members from 5 sectors	Members by majority. One vote per member	Board Selection Comm. Rep's from 6 sectors	Board Selection Committee. Rep's from 5 sectors
Candidate Search	Outside Search Consultant	Outside Search Consultant	Outside Search Consultant	Outside Search Consultant	Outside Search Consultant	Outside Search Consultant
Stakeholder Committee	Yes. Members Comm.	Yes. Management Committee	Yes. Advisory Committee	Yes. Stakeholder Comm.	Yes. Stakeholders Advisory Comm.	Yes. Stakeholders Advisory Comm.
Makeup of Stakeholder Committee	All members. State Consumer Advocates voting ex-officio. State PUC non-voting	All members. Consumer advocate votes in sector. State PUC non-voting	20 stakeholders (not necessarily members). Incl. State PUC, Cons Advoc.	23 members 9 stakeholder groups, include consumer groups and PUCs	13 reps from same sectors as Board Selection Comm. Incl. 1 Pub. Counsel rep	Rep's of five sectors
Who Selects Stakeholder Committee	Each member designates its own rep	Each member designates its own rep	Board	Each sector designates its own reps	Each sector designates its own reps	Each sector designates its own reps
Voting Responsibilities	5 Sector voting. Member selects sector. One member one vote. Non-binding recs to Board	5 sector voting. approx 20% each. One member one vote. (See note below)	Advise only. Approval authority rests with NEPOOL Management Committee (See note below)	Non-binding recs to Board via reports and minority reports	Non-binding recs to Board with majority vote. Minority view also be presented.	5 sector voting. Each sector 20% of vote. 2/3 vote to pass non-binding recs to Board
ISO on BOG?	Yes. Chairman	Yes. President	Yes. CEO	Yes. President	Yes. Chairman	Yes. Chairman
State on BOG?	No	No	No	No	No	No
BOG Filing Power?	Yes	Not complete	Not Complete	Yes	Yes	Yes
RTO Status	Approved	Non-compliant	Non-compliant	Approved	Approved	Approved

Mr. DROM. I'm sorry, but my eyes aren't good enough to read that.

Mr. OSE. Use this.

Mr. DROM. Yes, we have independent members. We do have seven members. Members were selected by an independent consultant and then approved by the members committee. We have a very strong stakeholders committee, and all members, including ex-officio members from the States, are entitled to be on it.

Mr. OSE. Well, as I look across that top line, every single one of them is an independent, made up of independent members, and there's six, seven, eight, nine. On that second line, you have different membership and the source of the selection is based on the skill sets they bring to the table, is that correct?

Mr. DROM. I can't vouch for the lines except PJM, but I do believe that a board like the PJM board does demonstrate the characteristics of independence that lead to success.

Mr. OSE. The members of the board that you are familiar with, are they subject to legislative confirmation?

Mr. DROM. Not at all.

Mr. OSE. Who appoints them?

Mr. DROM. An independent consultant selects a slate of candidates, and then the members approve them. They have staggered 3-year terms.

Mr. OSE. So, let's say the six of you currently serve on PJM, and one of you wants to retire, you would engage the services of an independent consultant, they'd give you a list of potential candidates, and then you'd decide who it was that you were going to select.

Mr. DROM. The board issues to the members a slate of candidates for the members' approval, and either two or three have gone up each year for the members' approval, yes.

Mr. OSE. When you say the members' approval, you are talking about the participants in the industry, would that, for instance, involve Mr. Winter? I mean, explain to me how it works.

Mr. DROM. Yes, I'd be happy to.

The members committee that PJM has, it's a two-tier governance that FERC has endorsed in the past. The Board of Governors are at the top, and a very vibrant members committee is below. It's composed right now of four sectors: generators, transmission owners, end users, and load serving entities. All the members, the 200, fall in one of those four categories, and they divide up the vote for each category.

So, if there are 25 generators, each gets 1/25 of a vote in a sectoral voting arrangement. It takes a two-thirds sectoral vote to pass anything at PJM, and in this case to approve the board it takes a two-thirds sectoral vote. So, we have a very vibrant input by our stakeholders, and if our board members are not achieving their goals, the stakeholders have a very easy way, when their terms expire, to just replace them with someone else.

Mr. OSE. Now, Mr. Smutny-Jones and Mr. Feider, FERC proposed a similar formula for California, for choosing a board, and I perceive from your written testimony that there's some discomfort you have, the two of you, in terms of the current board. Would this

new formula, if the Board of Governors were based on the FERC formula, would it satisfy the concerns you have?

Mr. FEIDER. I would have to take a look at the formula proposed by FERC, but from the Municipal Utilities perspective we support the model that PJM has for independence, independent board members are put forward.

Mr. Chairman, you may or may not be aware of the evolution of the Western Systems Coordinating Council that has been changed into the Western Energy Coordinating Council, and a similar board approach by member class is being used. And, although the Municipal Utilities haven't agreed on a specific model, those types of models are the ones that we'd like to see.

Mr. OSE. Where you have some stakeholder participation.

Mr. FEIDER. Yes, we think independent board members with strong stakeholder participation is an important element.

Mr. OSE. Mr. Smutny-Jones.

Mr. SMUTNY-JONES. We would agree with that completely. I think I have to publicly admit Mr. Drom and I used to have a public debate over whether or not independent boards or stakeholder boards were a superior way of going. He won the debate.

The stakeholder board, while in its inception the ISO did, I think, a phenomenal job of creating the ISO, putting together a staff that is second to none, basically, started falling apart when we were put into a rule of quasi ratemaking, which is what we were basically doing in the summer of 2000.

And, in that process, I think we lost the confidence of FERC and we lost political legitimacy here in California. It was replaced by the current board. I don't think there's a debate that in the current board independence was the watch word.

In terms of going forward the stakeholder process needs to be re-invigorated, because I think we end up with a better product and we need an independent board.

We also need an independent board that has political legitimacy, not only in California, but throughout the rest of the West, and this is where it gets tricky, because California, rightly or wrongly, has a persecution complex right now, and the concern about who runs the ISO is obviously a significant political issue, and we need to kind of figure out how we transition to a board of professionals that can actually operate the system.

It shouldn't be that—I have to believe that the political leadership of Pennsylvania, your colleagues in Congress, the Governor, the Pennsylvania Legislature, worry as much about their constituents as the political leadership here in California. Yet, somehow Pennsylvania has their transmission system operating in a multi-state, with an independent board. So, I think it is doable and it's the preferred model.

Mr. OSE. Mr. Winter, any feedback?

Mr. WINTER. I was going to just say I didn't want to respond to any questions on the board. Holding that thought that I made later, if you continue to question me, take the fifth, I would like to make a couple of comments.

No. 1, I served under two boards in this corporation now, and I think both of them met a tremendous need at the time. The stakeholder board, when we were starting up, it was a way to get a lot

of buy in. It had very knowledgeable people right down to, you know, how I should write my memos.

The new board clearly came in with a mandate, and I'm not so sure one of them wasn't to get rid of me, but, nonetheless, they did not do that, and I have to say that on day-to-day operations clearly that is—I have been given the leeway to do what I thought was required.

I get along with the new board just like I try to get along with everyone. I think the biggest issue that I see is the perception, that it is not what people want in "independence." And, I think clearly there the State and FERC have to work together to determine what is the proper structure for ISOs.

While I'm on this subject, there seems to be the idea that if you form an RTO the ISO isn't necessary. I think whether you call it a control area or an ISO, that to get the local, and I won't call it regional because to me regional is the Western United States, but to get local input you are going to need local "ISOs" or some forum that allows for the immediate constituents to get their input into how the system operates in a bigger scheme. Then I think once you go multi-state then clearly you've got to have an independent board that is made up of people that are from the industry, or independence there of.

Mr. FEIDER. Mr. Chairman, I'd just like to add one further thing to my comments.

We believe that designing the board, the independent board that we all are striving for, will be made easier by first establishing the mission of the independent system operator, that if their mission is confined to grid management, grid operations, that board will be easier to form and easier to design.

Mr. OSE. Well, you did make clear that you thought that was the appropriate role of the ISO, as opposed to running the markets and procuring electricity.

Mr. FEIDER. Yes, that's correct.

Mr. OSE. OK.

I do want to, Mr. Drabinski, I want to go back to something. You've made extensive recommendations in terms of improving the cooperation among the regulatory agencies, and you held what I would call a special role for FERC. Could you describe those recommendations for us?

Mr. DRABINSKI. Certainly. One of the recommendations, let me read it, for improving the cooperation, is to develop among FERC and the various California regulators and agencies formal policies committed to enhancing cooperation in the design, the subsequent oversight of the California electric industry.

When we looked at the players, and there are a myriad of them just within California, would be the legislative, the DUC, the Energy Commission, CERS, power authority, you know, then you've got FERC, you've got Congress itself, and one that I left out, I can't believe it since my background is finance, certainly is Wall Street, because without the capital markets buying in to what's going on in California you are not going to get the development that's required, or the credit readings that Terry needs in order to have offices that are a suitable size for the employees.

I think that our point, and we've made some specific comments in the report, that it's time to put politics aside, it's time to put the blaming individual groups or parties aside, to sit back and say what is the correct overall solution. What role should everybody be playing on a long-term basis, you know, get through the crisis, get the system set up right, and then look to see what you need to go forward in the long term.

I think someone made the point that in other parts of the country they've been able to do this, gotten away from the politicizing of the decisions role. FERC has to be the leader. FERC, ultimately, is the one that controls the interstate and the transmission elements of the ISO, and they've got the greatest leverage for getting things done. Unfortunately, they don't have the opportunity to make 100 percent of it, the CPUC and the other parties that I mentioned also have to play, and if they are at odds, I'm one of the parties to going forward, and I guess what we tried to express in the report is that California citizens, billions and billions in the last few years, and if you want to avoid it in the future it's time to put the politics aside and a real solution. We think FERC is the natural focus point. I think someplace in our report we have a triangle that shows the ISO, the customers and FERC, they are the natural point of authority here. And, to the degree that the State legislature has to come to some agreement, or some acquiescence, I think it's time for that to occur.

Mr. OSE. Mr. Wood, that's quite a load.

Mr. WOOD. We're up for it. I mean, that's partly what we asked for, managed to do the audit, we expected there would be some recommendations coming out that we were going to have to do, and that's why it's helpful sometimes when you are trying to think through a new process that we are not particularly adept at to have somebody come in and make a suggestion. We've asked parties, ISO a couple days ago, and then all the other interested parties, to respond to his audit, and particularly we asked them to prioritize the 19 things that he suggested be done, a big part of which is the role of FERC in being the facilitator or convener of the multilateral process, to really get back to the table and negotiate this stuff back out, because it is, I mean, I heard from the first panel there's a strong State interest here of, you know, we could do a lot of things on the wholesale level, but if the State doesn't have a corresponding retail match up to it, which we heard about 18 months ago, it doesn't work.

And so, as much as FERC has to do to set up the wholesale market, it is integrally connected to the rest of the picture. So, without question, we do have to work in a bilateral or multilateral mode, and we are up for it. I'm getting staffed for that effort. We have to also include the non-California parties in the West in that effort as well. So, it is—yes, sir, to answer your question, we are up for it.

Mr. OSE. It is not going to be easy. I want to shift here a little bit. We've talked a lot about the governance issue. Ultimately, when rubber meets the road it's the market design piece of this.

Now, Mr. Drom, you've talked about locational marginal pricing, can you explain that to us in English?

Mr. DROM. As an attorney, I can give you a very simplified explanation. But when you dispatch a system, you try to keep the lights on at all times; you have a multitude of generation sources that you can rely upon. At PJM, over 75 percent of the time when we dispatch more generation in an economic order the prices rise everywhere at the same time. That's our normal situation, because if we only need, you know, 20,000 megawatts we'll have like \$15 power, but as we ask for more megawatts they charge more. It's just the nature of the way generation is scheduled into our system.

Occasionally, and in some places it's frequent and in some places it never happens, we have congestion. Where there's congestion, it means that—

Mr. OSE. Congestion on the transmission lines.

Mr. DROM [continuing]. On the transmission, the wholesale transmission system. I'm not talking about retail or low voltage lines, I'm talking about the big lines.

Mr. OSE. The 500 kilovolt lines.

Mr. DROM. We control down to 69 in some areas, up to 500 for sure.

Mr. OSE. OK.

Mr. DROM. At some times during the system you can't do that. In order to serve a particular load you have to dispatch, meaning tell a generator who is higher than the normal cost, to go out of order and generate.

Now, there's two solutions to that. One is you spread the costs among everybody, and that's what many organizations do, and the other is locational marginal pricing. And that simply means the area where the higher cost generation is produced pays more than everyone else. So, there's disparity within the system.

Now, we have got it down to like 1,700 different points in our system, so we have very fine granularity over a five-State area, and with those 1,700 points in theory they can all be different on a given hour. They rarely are. Most of the time it's about 75 percent generally are all the same price, but in certain areas, like peninsula areas, the Delmarva Peninsula for example. It's a radial area and it's more prone to congestion because you can't get power from the East through the Atlantic Ocean, for example.

So, in simplicity, all LMP is, is pay the actual cost of dispatching the system in order to have congestion borne by those who caused the congestion. In essence, if a load in a pocket has to have higher cost generation, they should pay more than the one who is not in a pocket.

Mr. OSE. Conceptually, what you are talking about is pulling it to time of day pricing, in other words when the demand is really high you charge more, as a conservation measure or something.

Mr. DROM. There's an analogy to that time. Obviously, our prices are calculated every 5 minutes and integrated over an hour, so the locational marginal prices, the LMP, which we post on our Web site in real time, may vary constantly. We have a tool called E Data that anyone can subscribe to for free, and you can see the LMPs at any point over 4 hours, 12 hours, 24 hours, and it's graphed. So, people can immediately see the prices.

The advantage of LMP in my mind is very simple. It sends very powerful real time price signals to the load that experiences the

problem and encourages them, encourages new generation in particular, to locate in those areas.

Mr. OSE. But what you are doing is quantifying transmission costs.

Mr. DROM. The congestion costs, exactly——

Mr. OSE. Right.

Mr. DROM [continuing]. Quantified and allocated to those areas where they occur, rather than being socialized over everyone.

Mr. OSE. So, if you route it through one point and that point gets congested, you price it in such a manner that, perhaps, the person producing or the person receiving might choose to wheel it a different way and ease that congestion.

Mr. DROM. That analogy is a little off, because it assumes contract path. In reality, in a network grid, our power flows everywhere simultaneously. There isn't a path that's congested. But, our engineers, monitor particular facilities if they go out—if a generator goes off, or a transmission line goes down or something, we manage the grid reliably. That's when we have to dispatch certain generation off cost, namely, everybody else has one cost, and you are at a higher cost in this particular area.

If you look at the facts, you'll see in the last 3 years since we've had LMP we've had tremendous generation joining our area and building steel on the ground. We had over 3,000 new megawatts in the last 12 months alone, and the reason is, is because they can get these higher LMP prices. So, the price signals directly affect the market price, and guess what, when the generator locates there, the LMP goes down, which is great for everybody, because we not only have reliability, but we have supply.

Mr. OSE. You end up with distributed generation.

Mr. DROM. In a sense the generators are like distributed generation, and that's a separate initiative that PJM is pursuing now, because we strongly believe we have to encourage demand side management more than we have in the past. We have a proposal on March 4th for the members that we hope will pass and send on to Pat Wood for approval, a 3-year program.

Mr. OSE. Now, Mr. Winter, I know in your Market Design 2002 you've looked at locational marginal pricing, and you're proposing to adopt it, if I understand correctly.

Mr. WINTER. That is correct.

Mr. OSE. What kind of an impact do you think that will have on overall prices?

Mr. WINTER. Well, first off, I think it's always kind of interesting to note that we, in fact, our model runs on 3,000 points, which was what Mr. Drom was referring to. However, what we did at the beginning is, we broke it into zones. We picked those areas that we felt were going to be constricted, and rather than make all the calculations and go to all the different generators we jumped to the zones.

Now, I personally was not that concerned with that, because I always felt that the real model would eventually migrate. I thought PJM's model, and if I understood him right, they started with several points, many of which they don't look at anymore because they find there is no congestion there. On others, they find there is. So, we had gone from four, then we added a couple more zones.

When we go to the LMP, we are going to get much more defined. The result of that is going to be that there will be areas which have much higher costs than others within a zone. For instance, there's no use ducking it, in northern California San Francisco is a very restricted peninsula area.

Mr. OSE. Much like Delmarva.

Mr. WINTER. Yes. So, when you go to an LMP the residents of San Francisco are going to see an increased cost. That will be met with some, probably, opposition.

Mr. OSE. Now, Chairman Wood, from your perspective is the LMP a good model? What are the benefits or the problems? I think Mr. Winter just highlighted one, when you have an isolated peninsula clearly you have a problem because there's obvious congestion unless you are extremely lucky, but are there benefits or particular problems that you foresee?

Mr. WOOD. Well, I was slow coming to LMP, too, mostly because it moves from a level of simplicity to complexity really fast. I mean, there's not really a fading to grey there, it's kind of cut No. 2, a more complicated system.

So, when I was at Ercot, and we set up our wholesale market in Texas, we favored more of a zonal model like he just laid out, Terry, that California had, and it became clear right as I was leaving to come to FERC that model could be gamed, and people could play that congestion, because the costs were not borne by the people who caused them, they were kind of spread over everybody else. So, one of the benefits is that you are allocating—you are removing a big gaming opportunity from a trader, or market, or generator, or load, to kind of, basically, game the system to make some money and then spread the cost to the rest of the system, because those costs then under the new system come back to you. So, you cause a problem, you pay for it. So, that's actually a very positive thing.

I mean, generally, regulators like to have the cost causer be the cost bearer, and so if you can align those incentives then I think some of the things Mr. Drom was pointing out about where new generators decide to build, if the load takes advantage of demand side reductions, or puts small-scale generation on their site or nearby, distributes generation, those kind of things where people start to say, hey, I don't want to pay this excess cost, I'm going to do something about it.

That's not a spatial problem, that's a problem that's their problem, they have a much greater incentive to fix it, so it's really hard to improve on that.

I guess my only lament is that it is complicated, and the administration of an LMP model is not something you do with a GED, I mean, it's for the big league. And, I mean, that's OK.

Mr. OSE. That leaves me out.

Mr. Feider, how do the munis feel about this?

Mr. FEIDER. Well, as a director of the electric utility for the city of Redding in Shasta County, in the shadow of Shasta Dam, where there's probably 2,000 plus megawatts of generation in the county compared to 500 megawatts of load, it would be easy for me to say I don't care about this problem. But, several of our members live in the Bay Area, the city of Palo Alto, Santa Clara, and Alameda, and they are faced with this congestion issue.

We prefer a market that is simple, not complex, and so we are concerned about moving to this complex model. And, as I said in my remarks, we don't believe that there's enough wire in the air. If we had enough wire in the air, we wouldn't have as much a problem. So, that issue really needs to be taken head on as a part of this.

In the meantime, we think we need to be able to protect the existing rights that we have on the transmission, what we term physical rights, and we appreciate the fact that FERC rules in our favor in many cases to protect those pre-existing rights and those arrangements, because it's all about cost to our consumers. If we move to this model quickly, or too quickly, our rate payers are going to incur increased costs, and I don't think that's the right thing to do when we made the investments we think that needed to be made.

Mr. OSE. OK.

Mr. Smutny-Jones, how about you, any ideas on LMP?

Mr. SMUTNY-JONES. Well, I used to have a very strong religious conviction that LMP was very problematic. The events of the last 2 years have sort of worn me down.

My members do function in PJM, we believe it can be modified in a way that actually can work. I think the issues with respect to complexity is an important consideration, and the debate in terms of whether it should be put into the California market, or how it would work, I think the ISO's market reform forum is the proper place to discuss that.

I think that there are several things, though, that I would like to point out. The problem California faced in 2000–2001 I don't think would have gone away with LMP. If I'm correct, I think PJM has, you know, 90 percent of the power prescheduled, in other words, it's purchased, you know, it's not in real time.

Mr. DROM. No, that's actually not true. We have the option of self-scheduling, bilaterals and the spot market, and at any given day the spot market may be 5 to 25 percent and the bilaterals may be 10 to 35 percent, and the self-scheduling would be the difference.

So, there isn't just 10 percent.

Mr. SMUTNY-JONES. Well, the point is that there are mechanisms there which allow for a significant amount of bilateral trading, whether it's 10 percent or 25 percent.

Mr. DROM. Yes.

Mr. SMUTNY-JONES. Or whatever. We did not have that there for our load serving entities, and that was a fundamental problem.

The second area is that load really needs tools to be able to adjust. Here again this is a problem if you have entities within a node, that's what it's called, that can respond either by shedding load, or by cranking up generator. But we found in 2000–2001 often times we saw a run up in prices where people couldn't respond, load couldn't respond, consumers, let's not call them a load, customers couldn't respond because they didn't have the tools to respond. So, sending them a price signal that they couldn't respond to didn't make anyone particular popular. We need to address that issue with respect to having those kind of tools.

And last but not least is the issue that Terry addressed, which is that at this point in time you do have certain areas, San Francisco is the clearest one, of where, for lack of a better definition, San Francisco is being subsidized by the rest of northern California. The costs are higher to run power in San Francisco, and you are constrained with respect to transmission generation on the peninsula. We just need to get that out on the table and have a discussion about how you address that or how you segue into a program where you are not picking winners or losers, more importantly, is this a huge problem or is it a relatively small problem, because it may turn out at the end of the day that the actual "cost" to the end use customer is so de minimus that no one cares. I don't know that anyone has done that analysis, but that would be an area that I think needs to be looked at very closely as we migrate into more of an LMP model.

Mr. DROM. If I could just respond to that last point. Historically, LMP costs do vary tremendously, congestion costs. When we were designed in 1997, a lot of opponents of LMP said, hey, \$5 to \$10 million, why are we going through all this trouble for LMP congestion? They opposed LMP.

FERC, in its wisdom, approved LMP, and when we entered it the first year congestion was only about \$5 million. The next year it was about \$35 million, and then it was about \$100 million. So, the amount of congestion varies dramatically depending on what generating sources are available, what the day of the week is, and what transmission is available. So it's very complex, and you are very right, Jan, that it's not a de minimus problem, though some make it out that way.

Mr. OSE. Well, if I understand your testimony then, Mr. Feider and Mr. Smutny-Jones in particular, confirmed by you, is that there is a transfer going from those who have efficient distribution systems, for whatever reason, to those who have inefficient distribution systems, for whatever reason. There's a financial transfer going on under the current rules, am I correct?

Mr. DROM. Yes, I would say, I would describe it simply as socialization of these costs. They are inevitable. In order to run a grid Terry has to turn on high and low cost generators, but the question is, do you allocate those costs just to the area where you turn them on or do you spread the costs among everybody? That's the basic issue before you.

Mr. WOOD. Well, I think it also minimizes the costs.

Mr. OSE. It quantifies what the expense is.

Mr. WOOD. And then, the person who—

Mr. OSE. You supply the power to come in.

Mr. WOOD [continuing]. Right, so the gaming opportunity, which is another part of the California Market Design 2002 addresses and some call it an ink and debt game, and that's more than we need to talk about, but there is an incentive there to take behavior that would make costs go up for everybody. So, the overall amount that's being socialized is also higher than the sum of all the different amounts in the current market structure out here.

I don't know if that's true of the pre-LMP PJM, but—

Mr. DROM. I think that's exactly what our history was, because our first year we didn't have LMP, and our next year we did, and

we found the congestion was actually lower when we had LMP because any free rider principle tells you that people will use it more knowing they are not going to pay the full costs. So, I think there is not only an equity element, but there's also an actual reduction in congestion as a result.

Mr. OSE. Mr. Smutny-Jones.

Mr. SMUTNY-JONES. I was just going to respond. I think there's no question that the signals, in terms of the cost of congestion, are very clear in that model, and actually the question that I'm raising is once you've established the fact that the costs are higher it's a ratemaking question. Does PG&E take the cost of serving people in San Francisco, and does the PUC basically say we are going to spread it out through everybody at PG&E, OK, we are going to encourage PG&E to build local generation, or transmission, or something, to basically lower that cost, or are we going to leave it the way it is, which is basically spread over all the PG&E's customers.

So, this is kind of where we got, you know, LMP will result in a need to sort of have a State and Federal discussion of, OK, as congestion costs we know will rise in the San Francisco peninsula, what are we going to do about it, and that actually would be a State issue, and I would, you know, venture to guess that the PUC would have some opinion in terms of how they would address such an issue.

There's no question that the market signals are pretty crisp.

Mr. OSE. Do you confirm?

Mr. DRABINSKI. I was just going to say, from a long-term standpoint, what LMP does is essentially collect market signals, generators and transmission builders, as to where they should be putting the ark.

Mr. OSE. So, we would have to address the embedded or the stranded cost issues, if you will, the stranded revenue issues that the munis have at the very least to move toward this model.

Mr. FEIDER. Yes.

Mr. OSE. Now I want to go to the RTOs, I know our time is evaporating here, and I'm trying to be respectful of people's desire to be out of here by noon.

The FERC has been trying to establish RTOs throughout the country, Chairman Wood, can you give us a status report on your progress?

Mr. WOOD. Yes, Mr. Chairman, the 1999, December 1999, the FERC has put forth the standards for setting up regional transmission organizations. The point of an RTO, was the basic knowledge that there was a regionality to the power business, and that we needed to basically treat it as if it were, and set up an organization that would be the equivalent of the air traffic controller at the Sacramento Airport for the transmission grid of a given region of the country.

And, as a result of that, it was voluntary, but they put a very strong suggestion that RTOs be up and going in 2 year's time. Well, that time period came and went last December, and we did approve the first RTO in the country for the Midwest. It covered about 16 States, ranging from Ohio over to, oh, gosh, part of Manitoba, and then down south toward Missouri and Kansas, so that whole swap is now the Nation's first RTO.

PJM has applied for one. We are encouraging them and the two parties in the Northeast to consider joining forces. We are also working with parties in the Southeast, but it's pretty much a work in progress. Our hope is that, really, there is clarity to all the grid in the country by the end of the year, that we do have these organizations set up.

Out here in the West, it appears there's kind of a pretty strong, at least political, meaning not necessarily at your level, but political at the parties levels across the West, that the California, the RTO West, which is in the Pacific Northwest, and then West Connect, which is from the Desert Southwest up to Wyoming, that those would be three RTOs that would encompass the whole Western grid.

Mr. OSE. So, what are the benefits in cost to California of joining such an RTO?

Mr. WOOD. Well, we've actually done, and we've got coming out Wednesday of next week our cost benefit analysis that we have a consultant to do for us, again, that broke it out region by region for the whole country, because it's certainly helpful for us to discuss in the context of why we are doing this, to look at if there are benefits or not.

So, we've asked that be done, and I don't know exactly what the details are, but assuming that there are some benefits, the benefits certainly on the financial level of integrating the system together, to take advantage of the fact that rather than California having to build 100 percent of the power plants needed to serve California, it's recognized that weather and resources are different across the whole grid, it might be useful, as California has done for many years, to use hydro in the winter—or, to use hydro in the summer when there's a lot of it, power from the Northwest outside of California to supplement California's needs, and then use, when California is not using so much power in the winter, to export power off the grid to the Northwest. It's been kind of a natural back and forth relationship that I think has worked and benefited the West pretty well.

This, quite frankly, would not be plowing tremendous new ground, it's just to kind of institutionalize what has been kind of an informal practice for many years, and it gives some coherence, some long-range planning, some standardization of how commercial practices are done around the grid.

So, I would consider it an evolutionary step, not a revolutionary step, of trying to set up an RTO out here.

Mr. OSE. Here in Sacramento County we have a public utility governed by a seven-member board. Mr. Feider, I'm kind of interested in how the munis react to the proposal of California being part of an RTO.

Mr. FEIDER. We're very supportive of California joining a broader regional RTO to take into account the regional aspects and dynamics in the West, including making sure that the operation and scheduling protocols are consistent across the West.

Mr. OSE. When you say geographically, how big of an area are you talking about, California?

Mr. FEIDER. California, and actually the entire Western Inter-connected Grid, we think, ultimately, could be one large RTO, but

we would acknowledge that there are regional differences, and so an intermediate step that we see as a minimum is the Pacific Northwest as an RTO, the Desert Southwest, and the Rocky Mountain Region. Whether or not California could move to that RTO quickly is maybe questionable. We certainly would like to see it sooner rather than later.

Mr. OSE. All right.

Mr. Winter, how about from the ISO's standpoint on this RTO, any feedback?

Mr. WINTER. I'd say I believe 1999 was when I proposed that the Western Region ought to be one large RTO, right after that came out. Tomatoes, a few rocks, things were thrown at me for proposing that, but I still believe it.

And so, however the State of California recognized that, passed a law saying that I could not become a member of an RTO.

Mr. OSE. So, you were statutorily prohibited from it?

Mr. WINTER. Yes.

Mr. OSE. OK. So, I'm not going to ask you to break the law.

Well, gentlemen, I do want to thank you for coming. Given the constraints of time—I know what time the county told us we had today—I will leave the record open for 10 days for any comments you wish to include.

First of all, let me thank you all for coming, as well as the two members of the legislature. I learned a lot today regarding the market design and reform that is, frankly, essential, to ensuring that Californians pay only reasonable prices for power.

I think we are all in agreement that markets don't work well if they aren't designed well, that they'll collapse of their own weight, and consumers will pay more than they should if they aren't properly designed.

I will say, in my opinion, we have a market that has significant design flaws in it today, and I know we are all trying to work on it. I appreciate your efforts accordingly.

I do think that the independence of the CAISO Board is a critical step. I've served on corporate boards. Frankly, they serve a valuable role here, and their independence is at the heart of their ability to do their job. The establishment of that independent board of directors needs to take place sooner rather than later. My people don't want to be paying high prices because of inaction on this question.

I thank you all for coming, look forward to working with you in the future. Have a great day.

[The hearing was adjourned at 11:58 a.m.]

[Additional information submitted for the hearing record follows:]

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INDEPENDENT

February 28, 2002

The Honorable W.J. (Billy) Tauzin
Chairman
Committee on Energy and Commerce

The Honorable Joe Barton
Chairman
Subcommittee on Energy & Air Quality
Committee on Energy & Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairmen Tauzin and Barton:

On February 22, 2002, the Government Reform Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs held a hearing entitled "California Independent System Operator: Governance and Design of California's Electricity Market." I wanted to bring to your attention some of the important issues that were discussed at the hearing.

A careful review of the California energy crisis points to several factors. A fundamental cause of the energy crisis was lack of supply growth and increasing demand over the previous decade. A hot summer, low precipitation levels in the West, and air quality restrictions on power plants were all factors that caused prices to skyrocket. Overriding these factors was a flawed electricity market design that prevented the State from mitigating the high electricity prices (California State Auditor; "Energy Deregulation: The Benefits of Competition Were Undermined by Structural Flaws in the Market, Unsuccessful Oversight, and Uncontrollable Competitive Forces," March 2001.) The purpose of the Subcommittee hearing was to review the progress that California is making in electricity market reform to ensure that the State avoids another crisis in the future.

Unfortunately, the Subcommittee discovered that California has failed to make necessary reforms to the electricity market. If the precipitating factors return – sustained hot weather, drought, and robust economic activity – California will again face volatile electricity markets that result in high-priced power. One of the principal reasons for the slow pace of reform is due to the lack of independence of the California Independent System Operator (CAISO).

From the moment Governor Davis handpicked a new board of governors in January 2001, I have been a consistent critic of the State's role at the CAISO. The Governor's board violated the November 1, 2000 and December 15th orders of the Federal Energy Regulatory Commission (FERC) that called for an independent board of governors who had expertise in the operation and planning of transmission systems. Unfortunately, the Governor's board was neither independent nor experienced.

On October 9, 2001, FERC commissioned an operational audit of the CAISO. The audit concluded that the CAISO was not independent from the State. Furthermore, the audit stated that the board was ineffective in addressing long-term problems facing California's electricity market (Operational Audit of the California Independent System Operator, Vantage Consulting, Inc., January 2002). At the hearing, witnesses pointed to several examples where the lack of independence at the CAISO is hindering important market reforms.

Witnesses highlighted a CAISO maintenance standards proposal that was designed to prevent unplanned outages and allow the CAISO to properly prepare for plant maintenance operations. The proposal was completed last fall. However, the CAISO delayed filing the proposal with FERC in deference to the California Public Utilities Commission (CPUC).

Another example involves the CAISO's Market Design 2002 proposal. The cornerstone of this proposal is an available capacity requirement that would firmly place the obligation to serve on the utilities, and encourage them to enter into forward contracts for a majority of their power needs. The available capacity requirement has been widely hailed as one of the most important reforms in the CAISO's Market Design 2002 proposal.

Unfortunately, on February 7, 2002, the CAISO's board of governors prevented the staff from taking further action on the market design proposal until the CPUC had a chance to issue final procurement standards for the utilities. These are the same standards that the CPUC has failed to issue since the summer of 2000. At that time, the utilities were offered long-term deals for five cents a kilowatt-hour but had to turn them down due to the CPUC's lack of action on the standards. Clearly, the CAISO's deference to the CPUC has hindered important market reforms.

On May 29, 2001, FERC implemented a market mitigation plan for California's wholesale electricity market. On June 19th, FERC extended the plan to the region controlled by the Western System Coordinating Council. When requesting the price mitigation plan, California State officials asked for relief over the course of two summers. As a result, FERC set an expiration date of September 30, 2002.

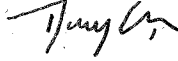
Now, the State of California is asking FERC for an extension of the market mitigation plan. Ironically, Governor Davis gave little credit to the FERC market mitigation plan, but now embraces it as essential. As one of our witnesses stated, the

market mitigation plan was a temporary band-aid. However, at this point, the State has not addressed the wound. I am concerned that, without necessary reforms to California's electricity markets, the State will be unprepared to supply the energy needs of its citizens when FERC ultimately decides to remove the market mitigation plan.

If Governor Davis insists that FERC extends the market mitigation plan, he should provide the necessary leadership required to reform the market. The first step would be to acknowledge that his hand-picked board of governors has failed. The Governor should work with FERC to create a truly independent board that has the expertise to tackle California's many energy-related challenges. He should comply with all FERC orders and he should order his State-run entities, such as the CPUC, to stop fighting political turf battles and cooperate with FERC and the CAISO to create a functioning electricity market that ensures that consumers will pay reasonable prices for power in the future.

If and when the Energy bill goes to Conference, I urge you to consider these points. Thank you in advance for your attention to this request. I look forward to working with you on this and other energy issues.

Sincerely,



Doug Ose
Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

cc: The Honorable Dan Burton
The Honorable John Tierney
The Honorable John Dingell
The Honorable Rick Boucher

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INTERPRETER

September 21, 2001

The Honorable Pat Wood III
Chairman
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Dear Chairman Wood:

On August 2, 2001, the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs held a hearing titled, "FERC: Regulators in Deregulated Electricity Markets." A significant portion of the hearing focused on issues concerning the lack of independence of the California Independent System Operator (CAISO).

During the hearing, former Federal Energy Regulatory Commission (FERC) General Counsel Kevin Madden stated that independence is the linchpin of functioning markets. The Subcommittee heard clear evidence that the CAISO lacked independence from the State of California, in particular the California Department of Water Resources (DWR). By appointing the CAISO board, Governor Gray Davis clearly violated FERC's December 15, 2000 Order, which laid out specific procedures for assuring a balanced, independent board. In addition, by allowing DWR employees on the control room floor and providing DWR access to non-public information, the CAISO violated FERC Orders 888 and 889, which require functional unbundling of market participants and operators.

Following the August 2, 2001 hearing, the CAISO informed the Subcommittee that all DWR employees would be removed from the control room floor by September 1, 2001. In subsequent contacts, the CAISO assured the Subcommittee that DWR would no longer receive preferential access to any information. I was gratified that the CAISO took this long overdue step. In recent days the Subcommittee was informed that certain DWR employees are still present on the control room floor, despite public assurances from the CAISO that this practice would end.

In addition, the Subcommittee received information from numerous market participants that suggests a complicated scheme by the CAISO or DWR to manipulate market prices

upward in order to reduce the political and financial costs of DWR's expensive long-term contracts. Serious charges have been leveled at the CAISO alleging that it bypassed cheap power available in the spot market and purchased more expensive power from DWR in Out-of-Market calls. These practices allowed DWR to unload its expensive long-term contracts at higher rates than in the spot market and avoid the embarrassment it faced earlier this summer when it sold its long-term contracts for as little as \$1 megawatt per hour. Such actions, if true, would result in higher electricity bills for California's ratepayers.

If such allegations are true, it presents the most egregious example of what can happen when an Independent Systems Operator loses its independence. The long-term contracts that Governor Davis negotiated have saddled Californian taxpayers with overpriced power for years to come. If the CAISO is involved in the aforementioned market manipulations in conjunction with DWR, then both parties are guilty of saddling California's ratepayers with high-priced power during a summer in which power prices were surprisingly low.

During the August 2, 2001 Subcommittee hearing, I called on FERC to take immediate action to address the lack of independence at the CAISO. I fear that this lack of independence may have created our worst fear: that the CAISO would manipulate energy markets to provide political protection for Governor Davis while increasing power costs to California's citizens. I urge the Commission in the strongest possible terms to investigate this situation immediately and provide a report to me about this matter. Californians have suffered enough under the State's inept management of the energy crisis. FERC needs to take aggressive action to bring sanity and stability to California's energy markets.

Please provide a report on your progress in this matter by October 12, 2001 to the Subcommittee majority staff in B-377 Rayburn House Office Building and the minority staff in B-350A Rayburn House Office Building. If you have any questions about this request, please contact Staff Director Dan Skopec at 225-4407.

Sincerely,



Doug Ose
Chairman

Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

cc: The Honorable Dan Burton
The Honorable John Tierney

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November 8, 2001

BY FACSIMILE

The Honorable Pat Wood III
 Chairman
 Federal Energy Regulatory Commission
 888 First Street, N.E.
 Washington, DC 20426

Dear Chairman Wood:

Thank you for your October 12, 2001 response to my September 21st letter, expressing concerns over the operation of the California Independent System Operator (CAISO) and asking the Federal Energy Regulatory Commission (FERC) to investigate this matter.

I understand that FERC's September 24th and September 25th meetings in Folsom, California - including CAISO, power generators, and various State agencies - were very useful in understanding the many problems that face the California electricity markets. Please find attached a chart that provides further evidence of these problems.

The chart compares the volumes of energy purchased in the spot market (BEEP Stack) versus Out-of-Market (OOM) calls from January 2000 until August 2001. Beginning in January 2001, when the State of California stepped into the power-buying business, OOM volumes outweighed BEEP stack purchases. This discrepancy grows throughout 2001 to alarming levels. OOM calls are more expensive and are supposed to be used only at the last moment to ensure reliability. Since the State was forced to sell surplus energy numerous times this year, I believe that FERC should be concerned about the need for unusually large volumes of OOM calls.

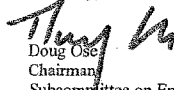
As I stated in our August 2nd hearing and again in my September 21st letter, I believe that the lack of independence of CAISO from the California Department of Water Resources (CDWR) is a root cause of the problem. Indeed, in a filing before FERC, CAISO acknowledges its lack of independence from CDWR, saying "The ISO is further

required to accept and dispatch out-of-market bids acquired by CDWR in advance of other bids in the BEEP stack" (10/12/01 CAISO Filing to FERC, Docket No. ER01-889).

By taking CDWR's OOM bids in advance of the BEEP stack, CAISO is providing preferential treatment to CDWR and is, thus, buying more expensive power than is available in the spot market. The result is a dysfunctional marketplace that is costing consumers millions of dollars in higher energy costs.

Thank you again for investigating this very serious issue. I eagerly look forward to the results of FERC's operational audit of CAISO. Please continue to keep me informed of your progress on this matter.

Sincerely,



Doug Ose
Chairman
Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

Attachment

cc: The Honorable Dan Burton
The Honorable John Tierney

Prepared by the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs

Date	OCM Volume (MMWh)	Wild Avg Price (\$/MMWh)	Peak Wild Price (\$/MMWh)	Off-Peak Wild Price (\$/MMWh)	1.00
2000_01	1,847.00	15.79	22.19	22.97	22.97
2000_02	35,889.99	22.59	22.59	22.59	22.59
2000_03	19,688.82	28.87	30.25	30.25	30.25
2000_04	4,835.67	744.17	743.02	743.02	743.02
2000_05	11,774.50	561.50	548.23	548.23	548.23
2000_06	27,217.97	694.70	696.02	696.02	696.02
2000_07	31,545.42	479.98	479.98	479.98	479.98
2000_08	119,637.65	409.46	407.96	407.96	407.96
2000_09	127,468.72	245.07	245.07	245.07	245.07
2000_10	4,207.97	195.34	195.34	195.34	195.34
2000_11	409,058.15	238.71	241.31	241.31	241.31
2000_12	2,146,821.51	392.37	395.52	395.52	395.52
Jan-01	1,942,000.00	298.00	298.00	298.00	298.00
Feb-01	1,774,000.00	360.00	360.00	360.00	360.00
Mar-01	2,259,000.00	319.00	319.00	319.00	319.00
Apr-01	1,854,000.00	385.00	385.00	385.00	385.00
May-01	1,837,000.00	311.00	311.00	311.00	311.00
Jun-01	620,000.00	127.00	127.00	127.00	127.00
Jul-01	595,832.00	67.20	71.24	71.24	71.24
Aug-01	300,773.00	53.00	56.00	56.00	56.00

Information provided by the Committee

Prepared by the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs

Date	BEEP Volume (MWh)	Wtd Avg Price (\$/MWh)	Peak Wtd Avg Price (\$/MWh)	Off-Peak Wtd Avg Price (\$/MWh)	Off-Peak Wtd Avg Price (\$/MWh)
2000_01	510,746.57	33.65	41.06	31.63	31.63
2000_02	397,687.61	30.68	30.78	30.43	30.43
2000_03	488,414.68	31.98	34.63	25.04	25.04
2000_04	594,968.18	44.74	52.77	20.49	20.49
2000_05	886,161.63	98.51	116.26	48.01	48.01
2000_06	1,025,475.60	290.91	341.61	93.82	93.82
2000_07	956,255.98	199.77	227.35	87.02	87.02
2000_08	2,003,151.60	230.28	260.12	136.74	136.74
2000_09	3,164,709.75	194.24	206.07	155.53	155.53
2000_10	1,911,467.94	146.57	153.55	127.01	127.01
2000_11	2,840,484.70	208.76	214.08	194.99	194.99
2000_12	2,930,407.66	242.77	243.78	238.80	238.80
Jan-01	1,270,000.00	287.00	311.00	207.00	207.00
1-Feb	855,000.00	384.00	392.00	357.00	357.00
Mar-01	329,000.00	347.00	327.00	387.00	387.00
Apr-01	-22,000.00	148.00	156.00	124.00	124.00
May-01	43,000.00	103.00	113.00	80.00	80.00
Jun-01	65,000.00		76.00	53.00	53.00
Jul-01	84,350.00	48.00	51.00	43.00	43.00
Aug-01	-23,475.00	29.00	28.00	35.00	35.00

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November 15, 2001

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INDEPENDENT

The Honorable Pat Wood
Chairman
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Dear Chairman Wood:

In my continuing concern about the California electricity market, I am enclosing an important document, which entails a memorandum from a California Independent System Operator (CAISO) employee to a CAISO board member. I urge the Federal Energy Regulatory Commission (FERC) to consider this memorandum in the context of its operational audit of the CAISO.

In my previous correspondence of September 21, 2001 and November 8th, I urged the FERC to address the issue of the CAISO's independence from the California Department of Water Resources (CDWR). I noted several instances in which preferential treatment, which was afforded to CDWR by the CAISO, resulted in harm to the electricity grid and higher costs for consumers.

On November 13th, my concerns were confirmed. At a hearing before a California State Senate Committee, co-chaired by Senators Joe Dunn and Bill Morrow, a confidential memorandum was read aloud, revealing several egregious examples of interference by CDWR in the electricity market.

The memorandum clearly illustrates the perils of a lack of independence at the CAISO. CDWR's heavy-handed involvement in the energy markets has resulted in higher prices for consumers and threatened blackouts. Once again, I urge FERC to take immediate action to return true independence to the CAISO and help bring stability to California's electricity market.

Sincerely,



Doug Cose
Chairman

Subcommittee on Energy Policy, Natural
Resources and Regulatory Affairs

Enclosure

cc: The Honorable Dan Burton
The Honorable John Tierney

13 April 2001

CONFIDENTIAL

To: Mike Florio, ISO Board Governor

From: Eric Woychik

Re: Impacts on Costs and Reliability of DWR/SERS Scheduling Practices

Current DWR/SERS practices cause very large additional costs for purchases on behalf of UDC customers and this also compromises reliability. The situation is worse than alarming, it's a potential bombshell of negative publicity waiting to go off. Further, what does this suggest for the Governor's plan to have the State take a larger role -- "don't go there." If the press, Legislature, or FERC get wind of this, I think we are toast!!!

The situation, as you may know, is exemplified by scenarios such as these three:

- SCENARIO 1: DWR/SERS has required ISO to schedule short-term bilateral contracts which caused ISO to back-down (dec) much less expensive available generation, including Mojave's cheap coal units. A specific example is where DWR/SERS required that ISO take a bilateral contract at \$400/Mwh and ISO was forced to turn down Mojave at \$60/Mwh, for a \$360 INCREASE IN CONSUMER COSTS for that period.
- SCENARIO 2: DWR/SERS over-scheduled cheap power available from the south and under-scheduled necessary power in the north, which CAUSED ISO TO VIOLATE PATH-15 TRANSMISSION CONSTRAINTS FOR AN EXTENDED PERIOD (in grid operation terms). This results in fines for WSCC violations but, more importantly, required ISO to scramble to back-down (dec) everything it could control at the time (hydro, thermal, geothermal) in order to avoid burning-down high-voltage transmission lines in the middle of the State. Thus, you have an emergency condition of large proportions on the ISO grid operating floor, which can be resolved only by operator experience, caused by DWR/SERS.
- SCENARIO 3: DWR/SERS is repeatedly scheduling multiple blocks of bilateral contracts, without sufficient amounts of flexible plant, into ISO, which causes ISO to go into contortions to redispatch to accommodate the bilateral blocks of power AT SUBSTANTIAL COST TO RATEPAYERS. At the same time, DWR/SERS does not act responsibly for these costs.

The Board needs to obtain (1) a rough quantification of the dollar impacts of DWR/SERS scheduling practices and (2) an estimate of the occasions and the extent to which grid reliability has been compromised by DWR/SERS scheduling and operating practices. Then, procedures must be defined to control DWR/SERS scheduling practices, possibly through a memorandum of understanding (MOU) or other form of agreement. For the Board to do otherwise would be a serious abrogation of responsibility, with huge potential consequences in terms of political fall-out, costs, and power reliability.

25Apr/ISO-643
Confidential

TOTAL P.21