

CALIFORNIA'S ELECTRICITY CRISIS

HEARING
BEFORE THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
ONE HUNDRED SEVENTH CONGRESS

FIRST SESSION

ON

CALIFORNIA'S ELECTRICITY CRISIS AND IMPLICATIONS FOR THE WEST

JANUARY 31, 2001



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CALIFORNIA'S ELECTRICITY CRISIS

WEDNESDAY, JANUARY 31, 2001

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 9:40 a.m. in room SH-216, Hart Senate Office Building, Hon. Frank H. Murkowski, chairman, presiding.

OPENING STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

The CHAIRMAN. Let me welcome you to the Energy & Natural Resources Committee hearing. The hearing today is on the California electric crisis and its effect on other Western States.

In view of the lengthy number of witnesses that we have, with the exception of Senator Bingaman and myself, and we have agreed upon this, we are going to defer opening statements and, as we all know, Senators can abbreviate their opening statements in their questioning period. However, we are going to make an exception and allow the two Senators from California to make statements relative to the significance of what this crisis has done to their State and Senator Bingaman and I have agreed that is probably the best way to expedite this hearing.

We are certainly aware of the seriousness of the problems in California, and I am not going to go into that today. However, I think it is fair to say that those that characterize the California deregulation as a failure do not fairly evaluate deregulation. California really does not have a deregulation in the strict sense of the word. With the capping of retail prices, why, clearly that changes the structure.

I think Chairman Greenspan has indicated in his statement before the Budget Committee that that type of deregulation really is questionable. I think he noted that power can be supplied in a regulated market or a deregulated market, and I quote, "but if you try to mix the two it is clearly, as evidence demonstrates, not the desirable way to go." I think that's an understatement.

In any event, we have what we have, and the California problems affect nearly everyone connected to the grid, the entire West. The Idaho Power may have to raise their rates as much as 24 percent. Tacoma Power in the State of Washington has already raised their rates 50 percent. Utilities serving Arizona's Tahonaho Indian Reservation will have to raise rates an additional \$1 million collectively on top of a 30-percent rate increase last summer.

We are seeing other States—Governor Leavitt of Utah said, “what is at stake is the economic competitiveness of the West,” and we have seen Chairman Greenspan’s analysis of the situation.

Having come from the bankruptcy community I have seen what a bankruptcy judge can do in a bankruptcy in dictating the rates the consumer may have to pay to restructure the utilities if, indeed, it should come to that.

Now, so far California has had 12 days of stage 3 emergency electric reserves of less than 1.5 percent, or prevalent margins that should be in the range of 15 to 20 percent are not there. It will be interesting to see what happens when the 12 days are up, whether California will actually have a workable plan that has the confidence of the investment community, or whether they will come back into the Federal Government for an extension of time.

We have seen statements from the administration that they do not intend to extend that sales order, but as bad as the trouble sounds, many of us on this committee fear the worst is yet to come. It is anyone’s guess what is going to happen this summer when the air conditioners are turned on. Given the reservoir levels in the Northwest even less power may be available to California.

Now, some of us feel that California created this problem by betting that it could rely on electricity produced in other States to meet the growing demands in California. The realization that no major powerplant has been built in a decade is a reality, and the fact that 25 percent of California’s electric energy comes from outside the State I think sets a parallel.

It sets a parallel, if you will, on the reliance that our Nation has on imported oil. We’re 56 percent dependent on imported oil. See what happens to a State that is 25 percent dependent on electricity coming from outside the State, and the exposure of the Federal Government and the United States in relying on 56 percent of oil coming from outside this Nation.

We also have inconsistencies. Take the case of Cisco, which fought the construction of a new powerplant near its office building in California. The irony of an electricity-dependent high-tech company locking the construction of an electric generator is simply—well, it is not-in-my-backyard mentality.

Again, this crisis was a result of California’s scheme of partial deregulation. I have already covered that. The Governor and the State legislature are struggling with the immediate crisis, but I think California needs to look at the future, the long term. It needs to recognize that electricity does not appear magically at the plug, as some seem to suggest. Somebody has to produce it. It has to come from the power of nuclear, the power of coal, clean coal, hydro, natural gas, wind, and other renewables.

I think some in the California environmental community forgot where it came from. Now there is a credit problem here and the ability of California to pay for its power, as well as an energy problem. If California expects to achieve a meaningful solution to the problems, the path is clear. It is going to have to allow and encourage new generation and transmission to be built. The question of the State taking over the industry is something that we can explore today, so I am not going to comment on that, but the reality is, somebody has got to pay for it. There is no free ride.

I think there is a lesson here for the other States both in the East and the West, and there is also a lesson here for the Federal Government, Congress and the administration. For far too long we have not had a workable, functioning energy policy in this country.

What California has taught us is, we cannot rely upon others to provide our energy security, so what we have today is a number of expert witnesses, but we do not have FERC, and we do not have the Secretary of Energy. Some of us see this in spite of our sympathy and recognition that we all have to do something about the problem, that this initially in this stage is a California problem, and it is appropriate that we have primarily California witnesses.

We will explore whether, indeed, there is a legitimate role for FERC and the Federal Government. Again, some of us are almost of the opinion that the government of California was trying to protect the consumer, the consumer ratepayer from themselves. Now, I do not know whether you can do that. Maybe we can find that out in this hearing today.

So what we have in these three panels is an effort to try and find factual information and gain an accounting of what is really occurring, and what it is going to take to fix the problem, not fix it temporarily with a band-aid, but fix it so it will work and progress.

The first panel consists of industry experts and a Wall Street analyst. I hope that the Wall Street analyst will call them as he sees them from the standpoint of what Wall Street sees going on in California, whether they're going to step up and finance new energy in California, or whether they feel that corrective action is sufficient or not.

The second panel is going to consist of three California investor-owned utilities, followed by those in the generation of electricity in California, and the marketers who sell power, and lastly, the second largest municipally owned utility in California.

We had invited the California independent system operators and the Los Angeles Department of Water & Power, but they declined the opportunity to testify.

Finally, the third panel consists of public and private utilities and others who are located outside of California, and they can testify as to the impact California is having on them.

Senator Bingaman.

[The prepared statements of Senators Murkowski and Dorgan follow:]

PREPARED STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

Today's hearing is on the California electricity crisis and its effects on other Western states.

California has serious problems. Shortages. Blackouts. Families sitting in the dark. Traffic lights out. People stuck in elevators. Production lines shut down. Utilities on the brink of bankruptcy. Stockholders and pension funds suffering major losses.

California's problems are affecting everyone connected to the grid—the entire West. Idaho Power may have to raise rates 24 percent. Tacoma Power has already raised them 50 percent. The utility serving Arizona's Tohono Indian reservation will have to raise rates an additional \$1 million on top of a 30 percent rate increase last summer despite a 20 percent unemployment rate on the reservation.

Utah Governor Leavitt said that "what is at stake is the economic competitiveness of the West." Federal Reserve Chairman Greenspan warned that California's crisis threatens the Nation's economic expansion.

So far California has had 18 days of a “Stage 3” emergency—electric reserves of less than 1.5 percent—margins that should be in the range of 15 to 20 percent. As bad as that sounds, I fear that the worst is yet to come. It is anyone’s guess what will happen this summer when the air conditioners are turned on. Given the reservoir levels in the Northwest, even less power is going to be available this summer for California to import.

California created this problem by betting that it could rely on electricity produced in other States to meet its growing needs. No major powerplant has been built in California for more than a decade.

Take the case of Cisco which fought the construction of a new powerplant near its office building in California. The irony of an electricity-dependent, high-tech company blocking the construction of an electric generator is simply too much. No wonder there is little sympathy in other states.

This crisis is also the result of California’s scheme of partial deregulation—deregulate wholesale sales and continue to regulate retail sales. As Chairman Greenspan noted last week—power can be supplied in a regulated market or a deregulated market—“but if you . . . try to mix the two . . . it is clearly, as evidence demonstrates, not the desirable way to go.”

In this connection, I understand that the California public utility commission has claimed that FERC has approved California’s retail rates. I would observe that under the Federal Power Act, FERC has exclusive jurisdiction over wholesale rates, but that States have exclusive jurisdiction over retail rates. It is well settled law—the so-called “Filed Rate Doctrine”—that States may not deny the passthrough of Federally approved rates, such as FERC-approved market-based rates. Nine days ago, a Federal Court held that the State may not deny California’s utilities the passthrough in retail rates of prudently incurred wholesale power costs. If the State of California acts promptly to comply with this Federal court decision, that could help address the financial stability of California’s utilities, which is a major element of the California crisis.

Governor Davis and the State legislature of California are struggling with the immediate crisis. But California also needs to look to the future—the long-term. It needs to recognize that electricity does not appear magically at the plug—it comes from generators. Nuclear, coal, hydro, natural gas, wind and other renewables.

If California expects to achieve a meaningful solution to their problems the path is clear—allow new generation and transmission to be built—not have the State take over the industry and try to run it.

There is a lesson here for other States—both in the East and the West. You too must look to the future. You too must make sure that energy is available for homes and businesses.

There is also a lesson here for the Federal government—Congress and the Administration. For too long, we haven’t had an energy policy. What California has taught us is we can not rely upon others to provide our energy security.

It is high time we have one so that consumers and industry have the energy needed to sustain our economy and way of life.

PREPARED STATEMENT OF HON. BYRON L. DORGAN, U.S. SENATOR
FROM NORTH DAKOTA

Mr. Chairman, I am pleased that we are holding this hearing. The California energy crisis is significant, and it is important for us to learn what is causing this crisis, and what we can do to solve it. We also must learn from this experience and avoid similar problems in the future.

I have long said that deregulation of industries such as the airlines, railroads and telecommunications have ended up hurting rural states like North Dakota. The California experience is reinforcing my belief that electricity deregulation, or restructuring, could cause similar harm.

I am very concerned about the energy problem the U.S. faces. I held a hearing in North Dakota on Monday to learn first-hand about some of the problems my constituents are facing as a result of high energy costs, particularly of natural gas. Natural gas supply is an issue in the California market, too, and I know this will be examined during the course of today’s hearing and beyond.

Some will argue that “the free market” will take care of problems, such as those being experienced in California and elsewhere. However, when a dysfunctional and only partially deregulated market is created, it is a recipe for failure, and the free market will not solve the resulting problems.

National Public Radio and other media have been reporting profits in the hundreds of millions of dollars for some companies selling into the California market.

This is wrong—especially at a time when blackouts are occurring and the California companies are going bankrupt.

In addition, the California companies also reaped billions of dollars in profits in the early years of California's electricity restructuring. The issue is what happened to these funds that made them unavailable when the recent crisis hit? Reports indicate that the profits went to the parent companies, and to pay dividends, pay off debt, reinvest in capital, and more. Thus, the funds weren't available when power supply shortages occurred and prices rose dramatically.

Mr. Chairman, I do not have the answers to all of these questions—it's unlikely that anyone does—that's why we're here today. However, I do know that the California system does not work. The Power Exchange has contributed another layer of bureaucracy and complexity that has contributed to California's problems.

I believe that some of the recent federal actions and state actions in California have been appropriate to begin to alleviate the crisis that State is facing. For example, elimination of the requirement that power be purchased and sold through the Power Exchange seems practical. The imposition of the "soft price cap" (\$150 per megawatt hour) on wholesale power sales also appears not only appropriate, but necessary, at this time. The cost-based rates may also be a solution, at least in the near term. Cost-based pricing has enabled federal power facilities to recover their investment and power supply costs, while keeping the cost of electricity affordable for commercial and residential consumers. North Dakota benefits from cost-based rates and will continue to benefit, at least until real restructuring legislation that creates true competition is enacted into law.

We need to look at longer-term steps, too, however.

For example, California's retail price caps means that there has not been any market responsiveness so, consequently, there are no incentives for consumers to respond to the current crisis.

We need to provide incentives for consumers to conserve energy. We need to look to renewable and alternative measures, not as entire solutions in and of themselves, but as part of an overall, long-term solution.

Let me also point out that utilities' claims that environmental regulations are prohibiting construction are not altogether plausible. Information from the California Energy Commission indicates that delay in the construction of new power plants in the state during the past decade was due largely to plans that were underway to deregulate the State's energy market. Until the deregulation plan was completed in 1996, generating companies were reluctant to invest in new plants due to uncertainty over future profits in a deregulated market. Unusually low demand for electricity during the mid-1990s, and historically low prices for power, led companies to shun new plant construction. When the prospect for large financial returns improved, however, construction of substantial quantities of new generating capacity actually began in California—apparently uninhibited by any environmental regulations.

I look forward to hearing from our witnesses and to working with all of the relevant stakeholders to craft a national energy policy that corrects past mistakes, and that works for all of us in the future.

Thank you, Mr. Chairman.

STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

Senator BINGAMAN. Thank you very much, Mr. Chairman. What is happening in California is extremely serious. It is serious not just for the people of California, but for people throughout the West, and, of course, throughout the rest of the Nation. California is not an island unto itself. Its electrical system is inseparably connected to the western power grid. Its economy is inseparable from our national economy.

The roots of California's problem may or may not hinge upon California's restructuring plan, and I think we will hear a lot of testimony about that today, but the effects of the problem extend to the rest of the West and to the Nation.

To his credit, President Bush has recognized that California has a problem, and that the problem is spreading beyond California's borders. Unfortunately there seems to be, at least from some state-

ments made by the President and the administration, there seems to be a perception that this is California's problem and should be left to California for a solution.

About the only solution I have heard so far from the administration is the opening of ANWR. Many factors seem to have contributed to the California electricity crisis, but the ban on oil drilling in ANWR is not one of them. Less than 1 percent of California's electricity is generated by oil-fired plants, and all of the oil in Alaska will not fix what is wrong with California's electricity market.

I look forward to hearing from our experts as to what they think the best solution is to this electrical power crisis. It may be to impose some sort of price caps or cost-of-service rates on wholesale sales. It may be something else. Whatever the answer is, I believe the administration and the committee have an obligation not just to California but, of course, to the entire Nation to try to find a solution and put that solution into effect before the crisis worsens.

Sixty-six years ago, when our predecessors here in the Congress passed the Federal Power Act, they asserted Federal jurisdiction in that act over interstate power and the interstate power grid. They said they wanted the Federal Government to be "ready to do all that can be done in order to prevent a breakdown in electric supply."

Clearly, the Federal Government has not done and is still not doing all that can be done and needs to be done to fix this national crisis. I hope we get some insights into what steps need to be taken in today's hearing.

Thank you.

The CHAIRMAN. Thank you very much, Senator Bingaman. I would call on Senator Feinstein, who is a member of the committee, and then we will hear from Senator Boxer.

**STATEMENT OF HON. DIANNE FEINSTEIN, U.S. SENATOR
FROM CALIFORNIA**

Senator FEINSTEIN. Thank you very much, Mr. Chairman. I want to thank you and I want to thank Senator Bingaman for holding this hearing. I think it is a very good list of witnesses, and I am hopeful that we can learn a great deal.

I would also like to extend my thanks both to Secretary Richardson and Secretary Abraham. Both Secretaries have gotten fully involved in the California problem. Secretary Abraham has carried that out, I am very pleased to say, and I frankly am very grateful to him for extending the emergency order both on electricity and natural gas.

As he said, it would have to take some very compelling circumstances to continue to extend that, particularly for electricity. The natural gas crisis appears to be looming in a very serious manner, and I believe his comments did not extend to natural gas.

Mr. Chairman, I have prepared a rather lengthy formal statement which I would just like to enter in the record.

The CHAIRMAN. It will be entered in the record.

Senator FEINSTEIN. I would like to summarize, and let me begin by quoting from the letter that I just handed you dated January 30 from the Governor of California addressed to both Senators

Murkowski and Bingaman, and I would ask that this full letter go into the record.

The CHAIRMAN. Without objection.

Senator FEINSTEIN. The Governor points out that a number of steps are being taken, and I would like to just quote a few parts. We are now focusing our efforts in the following four main areas, 1) increasing the energy supply through expedited plant construction and other sources of power generation; 2) decreasing energy demand and increasing efficiency; 3) expanding the use of long-term energy contracts, rather than relying on the volatile and expensive spot market, and 4) maintaining the financial viability of California's public utilities.

The Governor goes on to say that supply clearly has not kept pace with demand. In the 10 years prior to my taking office, there was no significant powerplant construction. To address this imbalance we are rapidly siting over 20 new powerplants, including 9 that have been permitted and 5 that are currently under construction. By year's end, California should have 2000 megawatts in new power production online. He submits an attachment which details that.

We are also streamlining the process to approve new powerplants, cutting the time by one-half in some cases. In addition to plant construction, we are looking at creative ways to get substantial megawatts online for the coming two summers through a variety of alternative and innovative technologies. I might add that six new powerplants should be online prior to the end of 2002, but not before then, and that is why this part is important.

In addition, we are finding flexible ways to allow for power generation while continuing to protect our environment. We are also coordinating powerplant maintenance schedules through the ISO and legislation recently passed, I might add, has reconstituted the ISO, has changed the mid-1900 deregulation law to require that utilities no longer divest of their generating facilities, but hold those facilities at least through 2004.

Legislation is now pending—it did not pass through the Senate yesterday, but hopefully by the end of the week—to permit some bilateral contracting and the auctions that have been held have resulted in more than two dozen additional contracts at about \$74 a megawatt hour. That is not as low as was hoped, but my understanding, these contracts vary between 6 months and 10 years. I think there are 39 of them in total.

He goes on to say that I announced the results of the first Internet-based auction for long-term electricity contracts, and then he goes on to speak about maintaining the financial viability of utilities.

I must say this. I think people in California are confused between the power generation role and the utilities' role of distributing power, because this morning's newspaper carried an article about Southern California Edison selling its generation facilities, which were required under the California law, and paying off the loans on those facilities, and then taking \$4.5 billion and putting it in the holding company.

There is a great deal of criticism emanating because of that. I am not going to enter into that debate. I am going to say that it is

probably sort of standard practice for privately owned or investor-owned companies to provide for their shareholders. I mean, I think almost any company would do this. The question of whether in an electricity situation this is the right thing to do remains to be seen, but up to this point, what has happened is, the utilities have had to buy power at rates that increased 1,000 percent in this crisis, extraordinarily volatile purchases.

If you can pass through 64 megawatts per hour, or \$64, and you have to buy megawatts at \$1,000, or \$3,000, you can see what happens in terms of the accumulation of debt and, in fact, these utilities have been acquiring debt at about \$3 million a day. That is inordinate.

Now, let me just make a couple of recommendations. What can the Federal Government do in this crisis until additional power generation gets online? The first thing is, provide some stability in the marketplace. To that end, I have introduced a bill which I hope the committee will consider.

FERC has the authority to grant, to put on a cap or to do cost-based rates if the rates are found to be unjust and unreasonable. FERC has made that finding, but it has refused to go the next step. My legislation would give the Secretary of Energy the ability that if FERC finds rates unjust and unreasonable to, 1) do cost-based rates which allow for costs, which allow for a margin of profits, or secondly to put forward a temporary wholesale regional price cap which the Governor of a State can opt out of if they do not want to be in it, and I would like just quickly—

The CHAIRMAN. Could you summarize the balance of your statement?

Senator FEINSTEIN. Yes. Could I just indicate and enter into the record a letter from the Governor of California to the Governor of Arizona and Nevada, Wyoming, Montana, and Utah essentially saying that one immediate solution to protect our customers from skyrocketing prices may be for the FERC to implement a temporary cost-plus-pricing requirement?

The CHAIRMAN. Without objection.

Senator FEINSTEIN. I will terminate now, and thank you.

[The prepared statement of Senator Feinstein follows:]

PREPARED STATEMENT OF HON. DIANNE FEINSTEIN, U.S. SENATOR FROM CALIFORNIA

Thank you, Mr. Chairman.

I appreciate your holding this hearing. There is a lot on today's agenda, and I will try to be brief.

CURRENT STATUS

Today, California is in its 16th straight day of a Stage 3 energy emergency. This means that California's energy reserves have remained below 1.5 percent since the middle of January.

Fortunately and miraculously, California has only had two days of rolling blackouts.

With the help of the President's Emergency Order requiring out-of-state generators to sell energy into the California market, California ISO has managed to keep the lights on.

Nevertheless, California cannot maintain the status quo indefinitely. The fact that there are extremely low reserves places incredible stress on our electric infrastructure and the financial underpinnings of that system.

KEEPING THE LIGHTS ON

California's peak demand during the winter is approximately 30,000 megawatts per day.

The State is meeting this demand through various strategies—including implementing its interruptible load contracts, purchasing surplus power from out-of-state suppliers, and even waiving permits for smog-causing pollutants (such as NO_x). The State, however, cannot keep up this juggling act.

This has been one of the driest years on record in Northern California and the Northwest. As a result, reservoirs are low. And because much of our power in the summer comes from Hydro-Power, it is likely that there will not be sufficient supply to meet the increased summer demand of approximately 42,000 megawatts.

Unless the State and Federal government take action now, I fear that we will have widespread and debilitating outages in California and, possibly, other areas of the west.

FINANCIAL CRISIS

Because of the way the electricity market was restructured, this energy crisis is causing a financial crisis as well. The cost of constant peak power has ruined the credit ratings of our two largest investor-owned utilities, PG&E and Southern California Edison and has them poised on the brink of bankruptcy.

Consequently, the State has had to step in and buy power itself. In fact, the State has already spent \$500 million dollars to secure power supplies. Furthermore, the State is suffering from lost productivity as a result of this crisis.

A recent study by the Los Angeles County Economic Development Corporation has concluded that California's rolling blackouts and interrupted service have taken an estimated \$1.7 billion toll in direct and indirect costs on the economy. This figure includes costs to big businesses, small businesses, and institutions. When the lights go out, we suffer from lost wages, lost sales, and lost productivity.

If nothing is done, the 6th largest economy in the world is put at risk.

Two questions arise: How did California get into this mess, and how will we get out of it?

STATE SITUATION

In 1996, California passed a badly flawed electricity deregulation bill. It was problematic on several fronts, but the biggest problem with the bill was that it forced California to rely on the "spot" market and "day ahead" market for 95 percent of its electricity.

At the time, supplies were high and prices were low, in large part because the State was still recovering from the 1990-1991 recession. Legislators assumed that deregulation would spur an increase in new generation and that demand would stay low and energy efficiency would improve. All those assumptions turned out to be wrong. In the past four years, demand has skyrocketed and little has been done to improve energy efficiency.

Demand for energy increased, but the supply of energy has remained constant. Inexorably, wholesale prices went up, and now we face shortages.

SOLUTIONS TO THE ENERGY CRISIS

In theory, the solution to the energy crisis is simple: either increase supply or decrease demand or do some of both. In the real world, however, that is much more difficult to accomplish than it sounds. Power plants take 3-4 years to get sited and built, and people need energy to run their daily lives.

Nevertheless, California is taking steps to address the crisis. Already, the State has approved 9 major power plants, which will generate enough energy to power 6 million households (6,278 Megawatts).

California has also implemented a conservation plan, which cuts energy use across the State by 7 percent. In addition, the state has taken steps to fix the market which has caused this crisis. California has:

- Conducted an energy auction to cover up to one-third of the State's energy demand;
- Expedited siting of new generating facilities;
- Eliminated environmental obstacles to in-state energy generation.

Through these efforts, I am hopeful that California will be able to avoid further blackouts in the next few weeks.

FEDERAL ROLE

The most important thing that the Federal government can do is provide stability and prevent price gouging. To that end, I have submitted legislation to give the U.S. Secretary of Energy the authority either to impose an interim Western regional price cap or to set reasonable cost-of-service-based rates for power generators if the Federal Energy Regulator Commission (FERC) finds there are “unjust and unreasonable” rates being charged.

You can’t have a situation where California is buying power averaging \$300 per megawatt hour, but can only pass it on to consumers at an average of \$75 a megawatt hour. Under the Federal Power Act, FERC holds the exclusive authority over energy generators and marketers. But despite this authority and despite FERC’s finding that rates in California are “unjust and unreasonable,” the Commission has refused to take action.

[I would like to enter into the record the November 1, 2000 FERC Order Proposing Remedies for California Wholesale Electricity Markets. The yellow tabs indicate where FERC refers to “Unjust and Unreasonable” rates.]

Thus, I have this introduced legislation to provide the Secretary of Energy the power to impose a temporary regional price cap and thereby prevent the price gouging or to set cost-of-service-based rates, allowing a reasonable profit for the power generators. If, however, a governor does not believe that the rate cap is in his or her state’s best interest, that governor would be able to “opt out” of the cap.

WORKING WITH OTHER STATES

For those who say that this is just California’s problem, don’t kid yourselves. This crisis will not be confined to California. Ultimately, it will have an impact on Washington, Oregon, Idaho, and the other western states—either directly with regard to power supplies or indirectly through its impact on the regional, national, and international economy.

I strongly believe that the only way to address this problem is for our States to work together. Already, nine governors of western states have indicated that they are open to some sort of rate cap, and I hope that this Committee will be, as well.

NATURAL GAS

In addition to the electricity crisis, natural gas supplies and prices are presenting another troubling problem for the region. Stocks of natural gas are low everywhere and because of the cold winter, the demand has been much greater than usual.

Low stocks and high demand have driven up prices across the country. It has been especially troubling in California on two fronts.

First, because of the economic uncertainty surrounding PG&E, California has had to rely on another Emergency Order from the President requiring natural gas suppliers to sell to PG&E. Without this order, it is possible that 3.5 million homes in northern California could be forced to go without heat. And unlike rolling blackouts which typically end in 60-90 minutes, if there is a natural gas crisis, if 3.5 million pilot lights go out, it would be weeks before PG&E would be able to turn them all back on.

The second concern lies in Southern California where natural gas prices have remained at nearly double the national average. Last Friday’s spot prices for natural gas were \$12.99 per million British Thermal Units (BTUs) in San Diego compared to \$7.14 in Chicago, \$6.88 in Katy, Texas and \$6.31 at the Canadian border.

[I want to also submit for the record a copy of a December 20 request I made to FERC asking for an investigation of the natural gas prices in southern California.]

Mr. Chairman, I know that you held hearings about the natural gas situation in the last Congress and I urge you to take another look at this problem.

CONCLUSION

Clearly, the energy crisis is a complex problem. I know the Governor and the legislature have been working tirelessly to find a solution to these problems, and I believe that they are on the right path. But the Federal government has a responsibility as well. I urge my colleagues to listen to the testimony that you will hear today, and consider the legislation that I outlined above.

As I said a moment ago, California has the world’s sixth biggest economy. It simply cannot function without reliable sources of energy at reasonable prices. This crisis may have originated in California, but I guarantee it won’t respect State boundaries. We all have a crucial stake in working together to resolve it.

The CHAIRMAN. Senator Boxer.

**STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR
FROM CALIFORNIA**

Senator BOXER. Mr. Chairman, if you can tell me when I have gone 3 minutes, I will wrap it up. Thank you so much, and I know you would rather do 2 minutes, but Mr. Chairman, thank you for your graciousness in allowing me this opportunity, and the same to Senator Bingaman.

My purpose for being here today is really threefold. It is quite—I think the simple points I want to make, No. 1, I want to also thank the past Energy Secretary and the current Energy Secretary for ensuring an adequate supply for California while we have been in these stage 3 alerts. I cannot tell you what it means to all of us, and we are very, very grateful.

Second, I want to expose a myth, that environmental laws are responsible for the electricity crisis in California, and third, I want to expose the myth that the Federal Government has no role in this crisis.

So my first point, I have already thanked them, and I think I would certainly hope that Secretary Abraham would continue to be vigilant on short-term help to our State.

Now, we have heard that California is in this situation because of strict Federal and State environmental laws, and the fact show it is not true. I ask unanimous consent that a *New York Times* editorial from January 16 be placed in the record at this time.

The CHAIRMAN. Without objection.

Senator BOXER. Let me quote from it. "Some politicians blame the State strict air rules which they say deterred construction of new powerplants and shut older ones down, but the real reason for the energy shortfall is that no new plants were built in the nineties because prices were low, supplies were plentiful, and producers wanted to wait."

Mr. Chairman, this editorial is right on target. It is not the fault of the environmentalists that California lacks generating facilities. Let me give you the facts. The history of the crisis demonstrates this. Before deregulation the public, California PUC ordered the utilities to build more generating facilities. The utilities did not want to.

In fact, the utilities, not the environmentalists, actively worked to halt powerplant-building in California, and the utilities argued that no new capacity would be needed until 2005. They were wrong, but the California PUC kept on pushing the utilities and they took them to court, and the utilities said to the State administrative law judge, do not force us to build these plants. We do not need them. The court ruled against them.

However, they took that turn-down and they went to FERC, and FERC sided with the utilities, and no plants were built, and so as a result we do not have enough in-State generation. If the construction had gone forward as the PUC wanted, the State would have an additional 1,000 to 2,000 megawatts of power, enough to prevent the almost daily stage 3 alerts and the rolling blackouts.

I will not get into the shielding of billions of dollars. I think Senator Feinstein is right, there is going to be a lot of analysis of that, and I will leave it up to you and many others, and myself I will

look at these, but today I do not think it helps to raise that question.

The CHAIRMAN. Your 3 minutes are up.

Senator BOXER. I will conclude in 1 minute. FERC says in its own words, its responsibility is to regulate the transmission and wholesale sales of electricity in interstate commerce. That is its mission, and so for us to say that they have no role does not even make sense. In fact, last November FERC found the electricity rates in California were, quote, "unjust and unreasonable." That is why I support Senator Feinstein's bill. I have my own bill with Bob Felner on the same subject in terms of wholesale prices.

My final point, you are right, Mr. Chairman, when you say that deregulation that was pushed in California by Pete Wilson and the legislature, Democrats and Republicans together, did not fully deregulate. It said, you cannot pass the cost on to consumers. However, Mr. Chairman, I would say to you, if, in fact, they could, prices could go up 1,000 percent, 600 percent, so I ask you whether in the real world consumers would accept that kind of increase.

So I hope we learn from California. I hope we can work together, Mr. Chairman. I know you and I do not see eye to eye on a lot of things, but I am ever so grateful to you for focusing attention on our problem. Thank you.

The CHAIRMAN. Thank you, Senator Boxer. We now move to the panel, and we have got a lot of witnesses and we are going to try something that I am going to kind of insist on, and that is the colors of the clock here. I know you do not have one in front of you, but the green means you are running, the yellow means to wind up, and the red suggests stop.

The first panel, we are going to try to give you about 7 minutes each, and then the second and third panel we are going to try 5 minutes. That way we might be through about 5 or 6 o'clock tonight.

With that, let me introduce Larry Makovich, senior director of research, North American Electric Power, Cambridge Energy Research Associates, Cambridge, Massachusetts, for an overview, followed by Peter Fox-Penner, principal of the Brattle Group, Washington, D.C., and Mr. Kit Konolige, managing director, Morgan Stanley Dean Witter, New York, and we trust you will call them as you see them. That is what we want to hear. We do not want any pussy-footing around here.

All right, Dr. Makovich.

STATEMENT OF LAWRENCE J. MAKOVICH, PH.D., SENIOR DIRECTOR OF RESEARCH, NORTH AMERICAN ELECTRIC POWER, CAMBRIDGE ENERGY RESEARCH ASSOCIATES, CAMBRIDGE, MA

Dr. MAKOVICH. Good morning, Mr. Chairman and members of the committee. I will try to summarize my prepared testimony in 7 minutes.

When California started its deregulation in 1996, it did so because it had some of the highest electricity prices in the country. There was a lot of optimism that what they were doing in California would provide a model for the rest of the West to follow, as well as other electricity markets around the world. Well, what has hap-

pened today is, we have a severe shortage of electric supply in California, and that has caused skyrocketing prices, rolling blackouts, financial distress, and political turmoil.

In fact, right now I think the biggest problem with California is, no one can agree on what went wrong and, of course, we are trying to formulate a solution. That is a big problem. Although it is tempting, it would be incorrect to blame this problem on deregulation itself. California has set up a market with serious flaws, and these flaws prevented supply from keeping up with demand. 5 years ago, when California passed its legislation to restructure this industry, it had a surplus of electric generating capacity. The economy grew 32 percent over those 5 years, and electric energy consumption grew 24 percent, so even with increased electric efficiency in the California economy, we reached a point in 1998 when supply and demand was in balance. We went passed that in 1999 and 2000 into a period now where we have a shortage.

Urgent action is needed right now to address this shortage crisis in the short run to avert an even more serious problem this summer, and we also need to fix the problem in the California market that created this shortage in the first place.

Now, the crisis in California arose because people believed that an electric energy market was just like any commodity market. When supply and demand would tighten up, prices would gradually rise, stimulate investment, and supply and demand would stay in balance. This assumption was wrong. Power markets are not like other commodity markets. They are complex and have unique characteristics, and the real lesson in California is that there is a right way and a wrong way to set up power markets.

California's restructuring law involves sweeping changes that did many but not all of the things that were necessary to set a market up properly. Customers could choose among alternative suppliers. Divestiture created a large number of independent rival generators. There was a formal power exchange. The ISO provided a traffic cop on the transmission system that hooks buyers and sellers together.

They had a plan to deal with their stranded costs, but the structural flaws in this plan were that the market was set up to make it impossible nor profitable to build new powerplants. These flaws were right there from the start of deregulation, which has made this shortage both inevitable and, sadly, preventable.

Now, the first problem is, the State does have an approval process for new powerplants that creates significant obstacles to building new power supplies. These hurdles have made California one of the toughest places on earth to build a new powerplant. Year after year, the State has failed to approve the amount of new capacity that has to be brought on to keep supply and demand in balance.

Now, even without these siting obstacles, California also set up a market that was guaranteed to deliver prices that were too low to provide a timely signal for the amount of capacity that was needed to keep this market in balance.

Now, setting up a power market properly means you have to pay for two things, capacity and energy. California set up a market that only paid for energy, the utilization of powerplants. When you turn on a 100-watt bulb, you have to have a capacity in an electric

system to meet that demand, and then you also have to pay someone to utilize that capacity to burn the fuel over time to produce the watt hours.

Now, unlike other commodities, electric energy is not stored in inventory. It thus requires this capacity to be there. Unlike other nonstorable commodities like telecommunications services, there is no equivalent of a busy signal in the power business, unless you consider a blackout a busy signal.

Now, most of the time in the power business there is plenty of capacity to meet customer demand, so the typical problem in a power system is to figure out which power units ought to be running, and that is what the energy market that was set up in California did so well. But to figure out the best plants to run want an energy market that clears on short-run costs only. You want the cheapest plants from a short-run basis to be running at any point in time.

So as we look at the record, whether the California market had a surplus of capacity, a balance, whether we look at the years when it was in shortage, the California energy market was doing its job of clearing on the basis of short-run costs.

Now, of course, the problem is no one is going to move forward and build powerplants on the basis of short-run cost recovery alone, and in fact when the market dipped into a severe shortage, of course, any short market of any type, price runs up dramatically. The price run-ups that we have seen right now are far higher than what is needed to bring forth new supply, and they are too late. If it takes 2 or 3 years to site new powerplants, the price signal had to occur years ago to avert this kind of shortage.

What California lacked was a requirement that if you are going to sell people electric energy you also have to have enough capacity, either owned or under contract by the suppliers, to meet their needs, plus a reserve to cover for the variances that we see from weather and hydro availability and so forth.

Now, if this requirement were in place, there are mechanisms, the right type of long-term contract, or a formal capacity market that could create the payment mechanism that would provide the timely price signal to show that it is profitable to invest in powerplants at the right time in a market like California.

Now, when we look around other deregulated power markets like Texas, New England, Pennsylvania, New Jersey, Maryland, they have these capacity requirements. Texas is a great example. It is a fairly isolated power market, so it has energy independence. Texas is roughly the same size as the California power market. It started its deregulation after California. It had less of a surplus capacity cushion to work with, but because it set up both the capacity requirement and energy market, and it sited enough powerplants to keep supply and demand in balance, Texas added 5,000 megawatts of new supply last year, and it's got another 8,000 coming over this year.

California is about 5,000 megawatts short. Had they done what Texas did there would be no shortage right now. Was this an honest mistake in California? The problem in California comes down to this. There was a belief that you could set up the rules for the power market with a stakeholder democracy. Instead of an expert

independent governance structure for the power exchange and the ISO, there were large committees of stakeholders. It is no surprise that when they organized this market with a surplus, the majority opinion was, why pay for capacity when the liability is free, and so today we need to embark on emergency actions to create lower demand and greater supply, and the West, being so interconnected with California, the citizens and businesses throughout the West now have an enormous bill that reflects the cost of this costly mistake in the power market setup.

Thank you.

[The prepared statement of Dr. Makovich follows:]

PREPARED STATEMENT OF LAWRENCE J. MAKOVICH, PH.D., SENIOR DIRECTOR OF RESEARCH, NORTH AMERICAN ELECTRIC POWER, CAMBRIDGE ENERGY RESEARCH ASSOCIATES, CAMBRIDGE, MA

CALIFORNIA POWER CRISIS: WHAT ARE THE REAL LESSONS?

When California passed its electric power restructuring law in 1996, it prided itself with being on the leading edge of deregulation in the United States. When the state passed its power restructuring laws in 1996. At that time, the state took on the daunting task of power deregulation for good reasons. The state's power prices were among the highest in the country, and the industry was mired in a complex regulatory system that promised to lead to still higher prices because the inefficiencies of traditional regulation made California's power prices among the highest in the country. The hopes were that deregulation would deliver lower prices and that California would be a model for other power markets to follow. That's not what happened. The results, instead, are today's power crisis: stand in stark contrast to the shortages, skyrocketing prices, induced price run-ups rolling blackouts, financial distress and political turmoil.

Today, one of the biggest problems in California is that no one can agree on what went wrong. Customers, regulators, politicians and power producers are all pointing a finger at each other to assign blame. Although tempting, it would be incorrect to blame the problems in California on deregulation itself. Indeed, there is a grave danger of drawing the wrong lessons. If this crisis drives California back to the heavy-handed regulation and control that launched power restructuring in the first place then the state is likely to find its electric sector becoming increasingly inefficient and expensive—and very much disadvantaged compared to regions with properly structured power markets. California is now at a critical juncture—the state can go backwards by reregulating—or even taking outright ownership—or the state can fix the flaws in its power market. The latter is the way to go.

Urgent action is needed not only to meet the current crisis but swift and dramatic steps are needed to avert an ever more severe shortage in the coming summer.

THE REAL LESSONS

The real lesson of the California power crisis is that there is a right way and a wrong way to set up and run a power market. California's electricity crisis is the result of three critical failures:

1. California set up its power market with serious structural flaws that made timely investment in new power supply neither possible nor profitable. These flaws were part of the California market design right from the start of deregulation. Consequently, the current power crisis was both inevitable and yet could have been prevented.

2. It has been enormously difficult to site and build new plants in the state. California has perhaps the most daunting power plant approval process in the nation. This process and the inability to site have thwarted efforts by companies to build the new power plant facilities that could have averted the supply shortfall.

3. Although described as "deregulation," the California system is only a partial deregulation. Customers remain under controlled prices (retail) that are well below the prices paid by utilities to generators (wholesale). This is a fundamental misalignment between the two parts of the market that creates a liquidity problem for utilities and disconnects the demand side from the market.

The crisis in California arose because people believed that electric energy markets were just like other commodity markets—when demand and supply tightened up then prices would gradually rise, stimulate investment and keep supply and demand

in balance. That assumption, however, is wrong. Power markets are not like other commodity markets. The power business is complex and has unique characteristics. Research over several decades pointed out that power markets are far more challenging to set up properly than most other markets. The system that was set up in California could have taken these realities into account—and come out with a good result. The system that was set up did not take these realities into account—with the results that we now see.

WHAT TRIGGERED THE CRISIS

The flaws of the market design prevented supply from keeping up with demand. Five years ago, when California passed its power restructuring legislation, the state had a surplus of power generating capability. Since that time, the California economy grew a phenomenal 32 percent, fueled by a 24 percent increase in electricity consumption. The fact that electricity use increased less than overall economic growth meant that the state was becoming more efficient in its use of power. Yet conservation and greater efficiency could not stem the need for additional supply. By 1998, demand growth had ended California's power surplus. The record of the past five years is clear—California failed to approve the siting and permitting of anything near the 1,200 Mw needed each year to keep demand and supply in balance. As a result, far too few new power plants were added to California's power sector over the past five years. Moreover—and this point needs to be faced—not enough power plants are currently under construction to end this shortage in the near term.

Why was new generation not added? That is the heart of the matter. The California power market was simply not designed to add enough generating capacity at the right time.

THE MARKET DESIGN

California's restructuring law involved sweeping changes that did many—but not all—of the things necessary to make a power market work properly. The legislation unleashed competitive forces: customers could choose electric service providers (ESPs); utilities were required to divest at least 50 percent and by requiring divestiture of at least 50 percent of their generating capacity owned by incumbent utilities to set up to create a large number of independent rival generators. The legislation replaced the existing decentralized wholesale power market with a centralized energy market called the California Power Exchange (PX). Another institution called the Independent System Operator (ISO) became the traffic cop in the transmission grid that physically interconnected the electric consumers and producers. The ISO also ran a market for other services power plants provide (for example, voltage control) to manage power flows on the grid.

The California restructuring plan faced a particular complication—"stranded costs." The traditional utilities had billions of dollars of costs that could not be recovered at expected market prices. Thus, California included a transition plan to move to a market while recovering these above market costs. To do this, the state backed utility bonds to finance a rate reduction of 10 percent along with the establishment of a retail price cap with a competitive transition charge—otherwise known as the "CTC." The CTC was the difference between the retail rate cap and sum of all power costs, including the wholesale power price. The retail price cap and its associated CTC expired once a utility recovered enough revenues to cover stranded costs. At this point, utilities remained obligated to serve customers by buying power from the power exchange and passing along this cost. The California crisis exploded when stranded cost recovery began to end and thousands of customers were released to the market just in time for the shortage to hit with far too little additional power supply in the works. As an emergency measure, the state returned to price caps to counter the shortage driven price shocks.

TOO FEW NEW PLANTS: OBSTACLES TO SITING

The state's approval process creates significant obstacles to building new plants. These include an open-ended environmental review process, tough siting and permitting procedures and well-organized community opposition. These hurdles make California one of the most difficult places on earth to build a power plant. As a result, year after year, the state failed to approve anything near its annual requirement for new supply to keep up with its growing demand.

TOO FEW POWER PLANTS: INSUFFICIENT INCENTIVE TO ADD "CAPACITY"

Even without these obstacles to siting and building, no barriers to entry, California set up a power market guaranteed power prices that were too low to support enough timely investment in new supply. California set up an energy market that paid power generators to run their power plants but did not set up any market mechanism to pay generators for capacity—in other words, no capacity price signal to create an incentive to bring on new capacity. This meant that prices were lower in the short run, but it also meant that prices would eventually explode in a future shortage.

Setting up a power market with the right price signals requires payments for two electric commodities—energy and capacity. For example, when someone turns on a 100-watt light bulb, the power system needs to have a power plant with the capacity to produce an additional 100 watts of power. If capacity is available to meet this demand then utilization of the capacity through time can produce the watt-hours of energy. Unlike other commodities, electric energy is not stored in an inventory and thus requires capacity as well as utilization of that capacity to meet customer needs. Unlike other non-storable commodities like telecom, a busy signal (a black-out) is not an acceptable way to get around this capacity requirement—because, when you're talking about electric power, a "busy signal" takes the form of a black-out.

California needs enough capacity at any point in time to meet the sum of customer demands for example, ten 100 watt bulbs add up to a kilowatt of demand and 1000 kilowatts add up to a megawatt. During the summer time when air conditioners are humming, California reaches a peak demand of about 53,000 megawatts. Since generating capacity can break down or hydroelectric capacity can vary depending on how much snow there was the previous winter, conditions can vary, California like any other power market needs a capacity reserve an additional 15 percent or so of capacity to insure that supply meets demand at all times. This margin provides the cushion that can absorb shocks caused by shortfalls in supply or surges in demand. In California, that cushion was eliminated by the growth in demand, on the one side, and lack of new capacity on the other.

Although compelling evidence of a developing shortage was apparent, most industry observers were complacent due to the belief that when new supply was needed the energy price would rise and bring forth new power plant in time. This faith in the energy market was ill founded. The California energy market alone was incapable of providing a timely investment signal because it was successful in doing the job of providing a price signal to efficiently utilize existing power plants.

Most of the time the amount of generating capacity available to meet customer needs exceeds the sum of customer demands. Thus the typical problem for a power market is to figure out which plants ought to be running to minimize production costs at any hour. To do this, sunk costs are irrelevant and competition should drive energy prices to reflect the short run costs of rival producers even at time of peak. The evidence in California is compelling—as long as a surplus existed, the wholesale energy market cleared on the basis of short run production costs with a level and volatility that was half of what was needed to support new investment. Similarly, when demand and supply were in balance, energy prices continued to reflect production costs. Even in a slight shortage during 1999, competitive forces were so strong that the energy market did not break significantly from production costs.

When the market tipped to a severe shortage in 2000, energy prices soared and volatility exploded to levels that were multiples of what was needed to support new investment. Besides being higher than needed to support investment, these price increases were also too late. The price signal for new investment needed to come several years before demand and supply reached balance to account for the lead time needed to site, permit and construct new power plants.

Clearly, a properly structured power market can not rely on periodic shortages and reliability crises to provide timely investment incentives. Instead, a properly structured power market needs a capacity payment mechanism. This begins with the simple requirement that anyone selling electric energy to customers must also buy enough capacity to cover these customers capacity needs plus a reserve. A capacity requirement met by the right type of bilateral contract or through a formal capacity market can provide the timely price signal needed to avert shortages and keep power markets in balance in the long run.

HOW OTHER STATES HAVE SOLVED THE PROBLEM

California's lack of a capacity payment mechanism stands in stark contrast to other restructured power markets such as Texas, New England and the Middle Atlantic region. For example, Texas had a market rule that required anyone supplying

electric energy to customers to also have enough capacity (either owned or under contract) to meet demand plus a reserve. As a result, power developers in Texas expected to sell both the capacity and energy from power plants. Besides looking more profitable due to two revenue streams instead of just one, building new electric supply in Texas was also possible. Texas approved the siting and permitting of more than enough new supply to keep the market in balance. Texas implemented its restructuring program after California and with less of an initial capacity surplus. The Texas power market is about the same size as the California market, yet last year Texas added over 5,000 Mw of new supply and expects to add 8,000 Mw more this year.

SHORT TERM ACTION

California is currently about 5,000 Mw short of supply. Unfortunately, there is no quick fix. Nevertheless, there are many short run actions that can reduce demand and add supply. These measures include:

- Find more conservation and interruptible load on the demand side.
- Add greater flexibility in legal and environmental limits on the power supply side. For example, the back-up and emergency generating systems at hospitals, hotels and office buildings in addition to barge mounted and mobile emergency power sources could provide a critical amount of additional supply in short order.
- Reactivate mothballed generating units.
- Expedite permitting and construction of power development already underway in California.

Unfortunately, actions taken so far do not address the underlying problem and in some cases are making matters worse. The retail price-freeze solved the price shock problem of this shortage but created a grave a serious liquidity problem. The state's utilities are trapped in a sort of no-man's land, between high wholesale prices and regulated, frozen retail prices. Forcing California's utilities to buy power at levels many times greater than the level they can charge customers caused major utilities to accumulate over twelve billion dollars of uncollected power expenses in just the past six months. Besides bringing these utilities to the brink of bankruptcy, the liquidity problem makes power sellers very nervous about selling their power creates a disincentive to power sellers and never being paid.

The long run solution is clear—California needs a mechanism to pay for capacity and needs to approve development plans each year for enough capacity to close the current gap and keep up with demand. These reforms are not simple—instead of using the appropriate type of bilateral contract or making the proper rules for a capacity market, California could mistake long term energy contracts for the needed capacity payment mechanism and create massive take-or-pay obligations in the future. In addition, the politics of “not in my backyard” may subvert real attempts to site and permit needed supply.

FLAWED DECISION-MAKING

The problem in California is not deregulation itself. The system was only partially and not properly deregulated. The flaws in California's power markets resulted from a flawed process of deregulation based on an idea riddled with uncertainties—stakeholder democracy. Stakeholder democracy is the belief that if all of the stakeholders of a problem are brought together, the correct policy will emerge through negotiation and compromise. Instead of independent, expert oversight, California intentionally designed large committees of stakeholders for the governance boards of the California Power Exchange and the Independent System Operator. When California formulated its deregulation policy with plenty of power plants already in place, it was no surprise that the majority of stakeholders voted not to pay for capacity as long as the reliability was free. Citizens and businesses throughout the West, as well as the utilities, are now stuck with the bill for what has turned out to be a huge and costly failure in deregulation policy formulation.

The CHAIRMAN. Thank you for staying within your time limit. We appreciate that very comprehensive statement.

Mr. Peter Fox-Penner of the Brattle Group. Please proceed. We would encourage those of you on the following panel, if you are interested in learning new things, so do not repeat what somebody else said, which I do not have to remind you we have a little prob-

lem with that here on this side of the dais. We do not practice what we preach.

Senator DOMENICI. Some of us have not even had a chance to preach.

[Laughter.]

**STATEMENT OF DR. PETER S. FOX-PENNER, PRINCIPAL,
THE BRATTLE GROUP, INC.**

Dr. FOX-PENNER. Thank you, Mr. Chairman. Thank you, members of the committee. Thank you for the opportunity to share my views on the state of the electric utility industry and recent events in California. I am speaking to you today not for my company or its clients, but, rather, as an expert involved in the industry for many years.

In fact, Mr. Chairman, believe it or not, 14 years ago I was a student doing a doctoral thesis on this very topic. I sought help from this committee and Mr. Useem gave me very generous assistance way back then. It is a pleasure to have this chance to thank him before the committee today and, Howard, after today, I sincerely hope you have no regrets.

[Laughter.]

Dr. FOX-PENNER. Mr. Chairman, there is no question that what is happening in Western power markets is a tragedy of immense proportion. As a student of energy history, I believe that there is really no parallel for this episode in the history of the developed world.

Now, there are two main schools of thought on this crisis. One group claims this episode shows that deregulation has been a total failure and reregulation is the way to go. A second group argues that the problem is that California failed because its deregulation was incomplete, and that a more complete deregulation, along with more supply, is the only answer.

Mr. Chairman, neither of these views is correct. The solution to California's problems and to our electric supply nationally is a combination of Federal, and yes, there is a Federal role, State and regional policies that allow the power sector to evolve smoothly towards greater competition, recognizing the diversity of supply arrangements and public protections that are lasting features of our system.

California's problems were caused by a host of factors, and I will try not to repeat Mr. Makovich. The State's robust economy spurred a substantial increase in demand, energy efficiency programs were cut, net capacity additions were inadequate, California did grow dependent on imports, we have had extraordinarily cold winter weather, depleted Western hydro reserves, the lowest gas storage levels since 1976, and the highest gas prices in a long, long time, and all of these factors exposed and amplified design flaws in an overly complex deregulatory scheme that Mr. Makovich did a good job discussing.

I would note to the committee that some of these factors are present to varying degrees in other deregulated markets across the United States. The Midwest and Atlantic coasts have experienced several episodes of price spikes and reliability threats. Demand has outstripped supply nationally across the country by a substantial

margin, but here, as in California, the marketplace is rapidly adding plant. The private sector I think is doing its job.

I also note that every State that has implemented deregulation has required the utilities to continue to offer a price-regulated default service for customers who do not choose to shop, and that in every such State 90 percent or more of all customers have opted to stay with this regulated service, and this leaves other utilities vulnerable to the tragic undercollections that have nearly bankrupted two of the California utilities here today.

What is the committee to learn from this experience? Mr. Chairman, I have five recommendations for Federal action, and I will not discuss State or other actions that I think are also important.

First and foremost, one of the things that makes electric restructuring uniquely difficult in the United States is our overlapping State and Federal regulatory system. No other Nation in the world has such a diverse regulatory framework. Recognizing that we can change this only by degree, Congress must be prepared to engage on the issue of the jurisdictional structure of utility regulation if it intends competition to work in the power business.

Gas and electric markets are regional, reliability is regional, and there is no avoiding this. Federal legislation is necessary, though not sufficient. In my opinion, legislation should include—and this is not a complete list—FERC authority over all transmission lines and reliability procedures. I think PUHCA and PURPA need to be addressed. FERC's authority to police market power needs to be clarified. I will have more to say about that in a moment.

Of course, we need to continue to provide for public interest programs. Beyond this, we must face the explosive question of how to license and expand our energy infrastructure. I suggest that this Congress or the administration take the lead in creating a real dialogue between Governors, local authorities, the environmental community, and all segments of industry directed towards procedures that will enhance our energy infrastructure, and when I say energy infrastructure, Mr. Chairman, I am referring to the full vertical supply chain that brings us electricity, but it is not true that all segments of that supply chain have that same degree of scarcity or problems in them.

I think that starting at the end of the chain, transmission lines are by far our biggest problem. After that, gas storage, which I mentioned, and perhaps gas production is next and is I think on the way to being fixed, and least scarce and of least concern—in other words, the market is doing the best job in this area—is the powerplants themselves and gas pipeline additions.

Personally, I believe that any procedures adopted to address the infrastructure needs will have to demonstrate a maximum reliance on decentralized sources and minimum environmental impacts before the public will accept new large-scale facilities, but until a forum exists for balancing our infrastructure needs the rest of the Nation will slowly reach the same throughput limits California has reached, to disastrous ends.

Second, I implore we all recognize electric markets will never work properly, never, without demand-side responses that so far are largely missing. In this area, the Federal Government can take a leading policy and technology diffusion role.

My third point concerns the environment. While environmental regulations certainly impose costs on power developers, there is no evidence that the Federal Clean Air Act is the cause of today's generation shortage in California. The plant construction boom in New England, where many States also impose very strict environmental controls, illustrates that robust development is possible under Federal environmental rules.

California does impose stricter environmental quality standards than are mandated under the Clean Air Act and I believe this has limited powerplant development to a degree. However, since the State itself has begun to address these issues, I do not believe that weakening the Clean Air Act is necessary, or even necessarily an effective way to encourage new capacity in California.

My fourth point concerns the difficulty of balancing energy price volatility supply adequacy and protections against market power. Deregulated gas and power markets are uniquely prone to extreme price variabilities, and will go through boom-bust cycles. We must carefully craft an alternative to the admittedly expensive supply buffer regulation gave us, or endure the consequences, and the acceptable outcome must not insulate consumers from all price signals, for this eviscerates not only deregulation but some regulated markets as well.

A final point, Mr. Chairman. Let me briefly mention the important topic of market power. It is inordinately difficult for economists to separate illegal market power from natural industry variability in this highly volatile industry and inadvertent or even intentional market design flaws. I know I have discussed this with Senator Feinstein.

The California markets illustrate this vividly. Whereas we have a near-unanimous verdict from economists that market power is present, we have a vast range of opinion on what to do about it. For this region, I urge Congress or the administration to convene an independent panel to examine this topic and recommend better Federal policies regarding these complex issues.

To summarize, Mr. Chairman, California's crisis calls for immediate and concerted efforts in that State and region. However, we will only multiply the tragedy if we fail to use this opportunity to enact policies critical to the long-term success of our energy infrastructure and to our economy as a whole.

Thank you.

[The prepared statement of Dr. Fox-Penner follows:]

PREPARED STATEMENT OF DR. PETER FOX-PENNER, PRINCIPAL, THE BRATTLE GROUP, INC., WASHINGTON, D.C.

Mr. Chairman, and Members of the Committee, thank you for the opportunity to share my views on the state of the electric utility industry and particularly on recent events in California. I speak to you today not for my company or its clients, but rather as an expert involved in industry restructuring for many years.

Mr. Chairman, there is no question that what is happening in California today is a tragedy of immense proportions. Families in San Diego and many other parts of the western U.S. face double-digit rate increases, businesses are laying off workers, two of the nation's largest utilities are on the edge of bankruptcy, and an entire state faces repeated rolling blackouts. These unprecedented problems threaten to spill over to weaken the U.S. economy. As a student of energy history, I believe that there is arguably no parallel for this episode in modern times in the developed world.

If you follow the press on this crisis—and who can avoid it?—you know there are two main schools of thought. One group claims that this episode shows that electric deregulation has been a total failure, and re-regulation or public power is the answer. A second group argues that California failed because its deregulation was incomplete, and that a rapid, more complete deregulation (along with more supply) is needed.

Mr. Chairman, the most important thing I have to say to you today is that neither of these views is correct, and neither represents a viable course of action for federal and state policymakers. The solution to California's problems and to our electric supply needs nationally is a combination of federal, state and regional policies that allow the power sector to evolve smoothly towards greater competition, recognizing the diversity of supply arrangements and public protections that are lasting features of our system.

THE CALIFORNIA MARKET PROBLEM

There is a fair degree of consensus concerning the proximate causes of California's problems. First, the State's robust economy spurred a substantial increase in electricity demand, rising between 2% and 3% per year between 1995 and 2000. Average peak loads rose substantially during the early summer months of 2000 compared to the levels experienced in 1999, driven by unusually hot weather. Some of the peak load and energy demand increases could have been averted through more aggressive energy efficiency programs, but California utilities reduced spending on demand-side measures by over 50% between 1994 and 1998. In addition, during the period between 1996 and 1999, when peak loads rose 5,522 MW, net capacity additions only grew by 672 MW, and thus California grew increasingly dependent on power imports from the surrounding region. Cold winter weather, depleted western hydro reservoirs, and a natural gas price increase across the country all further contributed to the sustained level of high prices we see today.

All these long-term or external factors served to expose and amplify design flaws in an overly complex deregulatory scheme. The design flaws, notably a massive over-reliance on spot markets and capped retail prices, are often cited as the main reasons for California's problems, but all of the ingredients listed above contributed to creating today's crisis.

NATIONAL IMPLICATIONS

While these long-term and market design factors have produced a calamity in the western U.S., it is critical to understand that many of these factors are present to varying degrees in other deregulated markets in the U.S., and that these markets are not invulnerable to California-like problems, albeit at a smaller scale. The Midwest and Atlantic Coast have experienced several episodes of price spikes and reliability threats. Between 1995 and 1999, U.S. electric demand increased by 9.5%, while total electric generation additions rose only 1.6% and investment in transmission lines actually declined. To make matters worse, deregulation reduced utilities' energy-efficiency spending by 50%. The result is a power sector in many regions critically short of new generation, needed transmission lines and/or effective conservation measures. Less than a year ago, an Electric Power Research Institute seminar concluded that, "North America is closer to the edge, in terms of the frequency and duration of severe power outages, than at any time in the last 35 years."

The Committee should also note that every state that has implemented electricity deregulation has required utilities to continue to offer a frozen, reduced "transition" rate or a price-regulated "default" electric service for customers who do not choose competitive suppliers. While some states have done better than others, no state has removed retail price protection from anywhere near all customers. In every deregulated state 90% of consumers or more have so far opted to stay with this regulated service, leaving many utilities vulnerable to the under collections that have nearly bankrupted Pacific Gas and Electric and Southern California Edison. Having said this, however, it is clear that deregulation is working better in most states than it is in California, and deregulation at the wholesale level has made great progress as well.

APPROPRIATE POLICY RESPONSE

What is the Committee to learn from this experience, and what policy response is appropriate at the federal level?

Perhaps the first item to mention is that electric restructuring is uniquely difficult in the U.S. because of our overlapping state and federal regulatory authorities. No other nation in the world has such a diverse and complex regulatory system, and the reality is that we can change this only by degree. Electric markets will work

only with cooperation between, and improvements in, state and federal regulation, including the creation of regional regulatory or quasi-regulatory entities. In short, Mr. Chairman, Congress must be prepared to engage the issue of the jurisdictional structure of utility regulation if it intends competition to work in the electricity business. Electricity markets are regional, and reliability rules are also most appropriately enforced at the regional level. There is just plain no avoiding this.

Federal legislation will unquestionably be necessary, though not nearly sufficient. In my opinion, legislation should:

- Give the FERC authority over all transmission lines and reliability organizations and procedures;
- Facilitate but not require state retail choice and enable municipal and co-op utilities to participate without penalization;
- Clarify FERC's authority to police market power; and
- Provide for continued public interest programs for low-income customers, environmental protections, and energy efficiency and R&D programs.

Beyond this you must face the explosive question of how to license and expand our energy infrastructure. I suggest that Congress or the new Administration take the lead in creating a real dialog between governors, state regulators, local authorities, the environmental community, and the industry, all directed towards procedures that will enhance our energy infrastructure. I believe that these procedures will have to demonstrate a maximum reliance on decentralized sources and minimum environmental impacts before the public will accept new large-scale facilities. In any case, until a forum exists for improving our demand and supply infrastructure, the rest of the nation will slowly reach the same limits of energy service throughput that California has reached to disastrous ends.

Second, I implore that we all recognize that electric markets will never work properly without demand-side responses that so far are largely missing. Allow me to explain. In every competitive market you can think of, consumers not only know the prices they pay, they are able to change their consumption almost immediately in response to price changes. So far, electricity is an unhappy exception to this rule. Electric markets do produce price signals, but most consumers do not see them; and even if they do, it is very hard with today's technology to reduce demand in relevant timeframes when prices go up. Imagine, Mr. Chairman, if Americans had to choose their gas station and fill up at the pump each week without knowing what they were paying until they received a bill at the end of the month. With recent advancements in information technology, it is not merely unfortunate that electric consumers can't adjust immediately to high prices, it is fatal for electric competition in the long run.

In this area, Mr. Chairman, the federal government can take a leading policy and technology diffusion role. No state has the budget or the expertise to implement demand-responsive technology nationwide. This is a uniquely national mission and it is a vital one. And on a similar note, federal leadership on more general energy efficiency and demand management technology diffusion is equally valuable to the nation, and also has fallen back due to the forces of unleashed restructuring.

Third, while environmental requirements certainly impose costs on powerplant developers, there is no evidence that the federal Clean Air Act is a cause of today's generation shortage in California. The substantial new plant construction boom in New England (where many states also impose strict environmental controls) illustrates that new development is entirely possible under federal environmental statutes. California does impose stricter air quality standards and emission offset requirements than mandated by the Clean Air Act, and this has limited powerplant development in certain areas. However, since the state has begun to address these issues, I do not believe that weakening the Clean Air Act would be an effective way to encourage new capacity in California.

My final point concerns the difficulty of balancing energy price volatility, supply adequacy, and protections against market power. Deregulated electricity markets are uniquely prone to extreme price variability, particularly in times of shortage. Under such conditions, it is extremely difficult for even a well-functioning market to prevent a degree of volatility and supply uncertainty that elected officials must judge for its political acceptability. And regardless of this outcome, we cannot insulate consumers from all price signals, for this eviscerates not only deregulation but sound regulated markets as well.

I believe that an under-appreciated and inevitable feature of deregulated energy markets is the sort of "boom-bust" cycles that we have often decried in oil and gas production in the past. Deregulation of electricity does imply that shortages may occur if only by accident and that the admittedly expensive supply buffer that regulation gave us for 50 years will no longer be there. In my opinion, either the econ-

omy will develop better ways to adjust to gas and electric price volatility or the public will lose patience with the concept, regardless of the many benefits of electric competition.

Relatedly, it is a fact that deregulated utility markets are subject to the antitrust laws and to specific utility statutes as well. It is inordinately difficult for experts such as myself to separate out illegal sources of market power from natural industry variability and inadvertent or even intentional market design flaws. The California crisis illustrates this point vividly. Whereas we have a near-unanimous verdict from economic experts that market power is present in these markets, we have a vast diversity of opinion on what to do about it. Buyers are asking the federal government and the courts for action, sellers are asserting that they are doing nothing whatsoever illegal, and the agencies and courts are unable to respond with much certitude. Ambiguity over this issue also can erode suppliers' willingness to enter and expand, thereby compounding our problems. For these reasons, I urge Congress or the Administration to convene an independent panel or commission to carefully examine the topic and recommend federal policies to address these issues.

SUMMARY

To summarize, Mr. Chairman, the California crisis gives us the perfect opportunity to address much-needed policy reforms in the electricity sector. Federal legislation should provide for regional reliability protections, public benefits, market power clarification, public power participation or opt-out, and other federal needs.

Beyond this, this Committee and the nation face a challenge that is more fundamental than deregulation, and which ultimately will determine deregulation's fate: how to reconcile a deep-rooted, but obsolete state-federal division of regulatory authority with energy markets and infrastructure additions that are inherently regional. Regional energy issues need a concrete forum for resolution and action, while fully respecting the views of state and local leaders and other stakeholders. Similarly, we must develop a combination of policies and patience that allow us to achieve supply security without crippling competition itself.

Solving these problems will be difficult, but we must remember that the hard problems take time. The policies that help create the world's most economical and reliable utility system were not built overnight. More than thirty years elapsed between the birth of the utility industry and state utility regulation, and it took another decade and the Great Depression to pass the Federal Power Act.

California's crisis calls for immediate and concerted efforts in that state and region. However, we will only amplify the tragedy if we neglect this opportunity to enact policies critical to the long-term success of our energy infrastructure and our economy as a whole.

The CHAIRMAN. Thank you.

Our last witness on this panel would be Mr. Kit Konolige from Morgan Stanley.

STATEMENT OF KIT KONOLIGE, MANAGING DIRECTOR, MORGAN STANLEY DEAN WITTER, NEW YORK, NY

Mr. KONOLIGE. Thank you, Mr. Chairman, members of the committee. Good morning. I am aware I am the designated Wall Street analyst here, and so let me avoid emphasizing some of the points made already and instead start by giving what I would say is the short answer from Wall Street for how the finance community views this situation and, more importantly, how, from a Wall Street perspective, the situation could most efficiently be solved.

I would start by saying that a true supply and demand market would be most important for those who would invest in powerplants in California or other States. In particular, price caps are a negative for investors. Long-term contracts are a positive for investors.

Certainly long delays in the approval of proposed powerplants are a negative for investors and, overall, I think clarity in the laws and the ability to have a firm belief that when you are going to build a powerplant that is going to last for 20 or 30 years, that the

laws are going to remain the same over that time period and, for example, caps on prices and so on will not change in those period, is a very significant help to people making that investment decision.

I will not go through the crises. Everybody knows what they are, blackouts, very high prices. Let me just add to what the chairman mentioned. He mentioned Tacoma and Idaho. My favorite neighboring site is Seattle, where the city utility already raised electricity prices 10 percent this year and now is talking about needing another 18 percent. All these rate increases, by the way, are higher than California has imposed on itself.

I would also point out that the emergency help given to California this winter, in particular from the hydro resources, is that much less hydro electricity that is available for the even higher peaks that are coming this summer, and so I think many people are reasonably concerned that the crisis can get worse this summer before it gets better.

What was the nature of this dysfunction in the market that we can all agree on? I would say again from the perspective of investors and Wall Street, I would say it is pretty simple, and it has been mentioned before. There was a very strong and a kind of mandated disconnection between supply and demand. California has not allowed, as has been mentioned, any new powerplants to be built for 10 years and at the same time it mandated lower prices to customers, so you had customers using electricity with no signals that it was in short supply, and powerplant builders who would have been happy to respond to the high wholesale power prices were not able to do so because of the extremely long period in which there was no ability to actually put the powerplant on the ground.

Senator Boxer mentioned before that high prices, if passed through to the consumer if the market were freed, would result in runaway prices and, of course, there is a certain concern about that. If the prices to consumers were freed but the supply response is not freed, then you will continue to have a dysfunction.

I think the central point of my testimony would be that we need to move towards a system in which both supply and demand of electricity are as open to the market as possible and in particular I think that means that we need to move towards a system where we let consumers pay the true market price of electricity. That will send signals to builders of powerplants that there is a need for new powerplants, and we need to allow powerplants to be built in a reasonable period of time in order to respond to that.

As has been mentioned here, for more than 10 years California has built no new powerplants. That is unlikely to be just a coincidence. In that time, with the lower prices in California since the 1996 law, Californians are now using 6,000 megawatts more than they did at the beginning of the period of the law. That is about 12 big powerplants' worth, so you need some more power to be generated in California.

I think it has been mentioned already, the now sort of internally famous story of the Metcalf plant in San Jose, where the Calpine Corporation was willing and anxious to spend many millions, maybe millions of dollars to build one of the newest cleanest power-

plants in the world, and yet the big company, Cisco, and the city of San Jose tooth and nail opposed this plant, and continue to oppose this plant, even though the Silicon Valley area there is most subject of all areas of California to blackouts and, in fact, has had the blackouts.

Let me mention a couple of specific other points on the free market and then wrap up. California interfered with the free market in a couple of kind of unique ways that were troublesome. First of all, it prevented the market from signing long-term contracts in the market for electricity. In most countries and other States long-term contracts are considered the fundamental way in which both buyers and sellers levelize and hedge the price of electricity over a long period of time. This effective prohibition on long-term contracts drove up spot prices in California and throughout the West.

As conditions got tighter in the year 2000, the State sought what I would consider a quick fix in the form of price caps. Four separate times last year price caps were lowered. California now has the lowest price cap in the country, at \$150 per megawatt hour, versus the next lowest price cap of \$750.

What has the result been? California is the only State that has produced the highest electricity prices and the only blackouts in the country. Maybe just a coincidence. Probably some negative impact in which the market gets around the price caps. I think clearly, from the point of view of Wall Street, you get a perverse incentive where, in a price cap situation, people will only sell into that market if they get what might otherwise be considered very high returns, because they consider that their long-term prospects are very suspect in a situation like that. If you leave the market alone, they are happy enough to build a plant and take their chances on the long term.

I would say the good news is that this is a crisis that was created by political decisions, can be fixed by political decisions, and I think if it is fixed, I personally know dozens of energy companies that are willing to invest billions of dollars in new power in California. Of course power companies would want to build in California. There are not enough powerplants in California. In theory, it is an excellent place to build.

But I would say two key things need to be done before that happens. One is, again on the supply side, the process for siting powerplants simply has to be made more transparent and much quicker. We could see not just gas, but clean coal, wind, solar projects would be lining up to build in California, but if it takes 5 years to get a decision you are eliminating a lot of the people who would be most interested.

Finally, as I think others have mentioned, I think it is unrealistic, and it will not produce a functioning market, if you even for a period of years attempt to insulate customers from the high prices of electricity. If they do not see prices rise in times of shortage, customers will simply continue to run the air conditioning and that will just compound and add to the crisis.

So I would end by saying simply, it may take some time and effort to put an effective market system into place, but it would be very much worth it to California and all its neighbors, because an effective marketplace with good supply and demand signals would

bring down long-term prices, and it would certainly prevent the kind of devastating blackouts we have seen in California.

[The prepared statement of Mr. Konolige follows:]

PREPARED STATEMENT OF KIT KONOLIGE, MANAGING DIRECTOR, MORGAN STANLEY DEAN WITTER, NEW YORK, NY

Good morning, Mr. Chairman and members of the committee. Thank you for the opportunity to address this committee hearing on an issue of such national importance.

My name is Kit Konolige. I am a managing director at Morgan Stanley Dean Witter. My job is equity research analyst in charge of our coverage of electric utilities and unregulated power companies. Basically, my team and I advise investors—such as pension funds, mutual funds, and small private individuals—on which power companies' stocks are likely to provide a good return on their capital, and what are the risks involved.

In more than 11 years doing this job, I have never seen large electric companies in a more dangerous financial position than Edison International and PG&E Corporation over the past two months.

Some people think that the possible bankruptcy of these companies is a matter of concern only to investors in the stocks and bonds of two utilities. I believe that is a very wrong and dangerous idea.

The utilities' financial crunch is one symptom of a broken system—other symptoms include blackouts and the likelihood of much higher electricity prices throughout the West. This is a crisis that has already caused severe problems for all electricity consumers in California, throughout the West, and even throughout the country.

It has produced much higher than necessary electricity prices, which lead to higher costs throughout the economy, and thus overall lower economic performance. California caused the problem, and Californians are suffering blackouts and high prices as a result—but the rest of the West, and the country, are also paying the high price, probably for years to come.

So fixing this crisis is a matter of some national urgency.

The good news is that this is not a natural calamity. It is largely a politically created crisis and it can be fixed, though I think its effects will linger.

This is not a crisis caused by deregulation. There was never real deregulation in California. This is a crisis caused by not enough deregulation. It was caused by California's unique, disruptive new form of re-regulation. These high electricity prices, which inevitably will be passed through to residential customers and businesses throughout California and the West, were mostly the predictable result of political meddling that disrupted the marketplace for electricity.

And for those who now pine for the golden days of regulation, let me remind them that this 1996 law in California was meant precisely to bring down the high prices caused by regulation. Regulation was blamed, I think correctly, for encouraging utilities to overbuild expensive capital investments and for providing no incentive to keep down operating costs.

The authors of the so-called deregulation plan, passed in 1996 in California, claimed to want a market system, yet they prevented both supply and demand from working. What they really wanted was permanently low electricity prices with no limits on consumption. No system can produce that, as the Soviet planners proved for decades—and this attempt at overriding basic economic rules had spectacularly perverse effects that we must now all deal with.

California's system allowed neither supply nor demand to work properly to produce lower electricity prices. Preventing new power plant construction stifled supply, while fixing consumer prices artificially low encouraged excess demand.

At the most basic level, this is a crisis of supply. There is not enough electricity—for a simple reason—there aren't enough power plants. In the last 10 years, demand in California has grown at 3 or 4 percent in some years, while no new plants of any size have been built in the state.

So eventually, the shortage of power in California was bound to produce high prices. In a well-constructed market system, the high prices would have called forth new supply of the commodity—and thus high prices would have solved their own problem. But since California requires generally five years of hearings before new plants can begin construction, there is no new supply in any reasonable time to compete down high prices.

Even today, in the middle of this crisis, the hostility to power plants remains. The classic story involves the Metcalf plant proposed for San Jose's Coyote Valley.

Among the major victims of last summer's blackouts were the citizens of San Jose and the stakeholders of Cisco—one of the most important companies of California and of the entire New Economy. The blackouts produced inconvenience and, more important, many millions in economic losses.

These blackouts were hardly a surprise, as the Silicon Valley area imports more than 80% of its electricity from outside the region—so it has few electrical resources when supplies get tight. And yet, offered a solution to their problems in the form of one of the newest, cleanest power plants in the world, both the city government and Cisco have both fought this power plant tooth and nail. Cisco apparently just didn't like a power plant next door to its proposed new headquarters.

Everybody says they want cheap power, and plenty of it—just not a power plant to produce it. You don't need a Ph.D. in physics to figure out that, at least for now, you need big machines to produce electricity—and if you don't build them, you're going to run out. The Silicon Valley area imports 83 percent of its power from outside the area. We've seen this "not in my backyard" syndrome lots of other places—but seldom so obviously, and seldom with such disastrous consequences.

California flunked another Economics 101 test as its desperation move to lower price caps—four separate times in one year—proved as predictably misguided as it had for all those decades in the Soviet Union. California now has the lowest price cap in the country at \$150 per megawatt-hour—the next lowest cap is \$750. No special prize for guessing which state produced the highest electricity prices and the only blackouts. And yet there are still people arguing for yet lower price caps.

The California "market" system also had a unique feature that seemed almost perversely designed to produce high prices. This was the requirement that the great bulk of power be bought and sold only in the spot market. Again, the open market was circumvented—an open market would have produced mostly long-term contracts to stabilize prices, as it has in other states and countries. This spot market reliance is now recognized as a big mistake and is on its way to being changed—but the effects linger.

What about the demand side? Demand also wasn't allowed to work in the supposedly deregulated market of California electricity. Under the 1996 law, high prices were deliberately not passed through to consumers. This shielding of consumers from high prices has put the utilities some \$12 billion in debt—and eventually the customers will have to pay off much of that debt anyway.

But artificially low fixed prices create an economic problem that is more important than the fate of the utilities. High prices are supposed to cause consumers to use less of a scarce commodity, and thus bring prices down. This is how gasoline and airline tickets and Disneyland passes work. But the politicians didn't allow it to work that way in California electricity. Encouraged by artificially low prices, California consumers naturally continued to increase their use of electricity, even as the wholesale price indicated the commodity was getting scarcer and scarcer.

Higher prices are the simple, direct way to conservation.

HOW IT HURTS THE WEST—AND THE REST

Californians themselves are the main victims of this failed project to install a sort of market-manipulating system for permanently cheap electricity.

But the West as a whole, and in fact the entire country, are also suffering from the after-effects.

First of all, by damaging its own economy through blackouts and needlessly high energy prices, a California that is one-eighth of the entire U.S. economy inevitably has hurt every other business and consumer in the country.

More specifically to the West, high electricity prices in California drive prices higher everywhere else that is interconnected, from Seattle to Las Vegas to Phoenix and beyond. In effect, by not building their own power plants, Californians are putting upward pressure on prices by soaking up electricity from regions that have built their own plants. Seattle City Light is now considering an 18% rate hike, on top of a 10% increase on January 1—more responsible pricing than California, a big part of the high-price problem, is willing to impose on itself.

Citizens of neighboring states might also ask whether they want to dedicate their equally treasured land and water to siting plants to serve San Jose—the city that wants more electricity but no more power plants.

The chaos of the California markets generally has spilled over into the entire West, producing higher prices throughout the region. The uncertainties of payment and of the emergency federal orders have raised the cost of energy for all California's neighbors—and those prices are indicated in the market to be substantially higher for the next five years.

At best, all the residents of neighboring states are facing higher prices for electricity because of the policy failures in California. But in addition, the regional economy is disrupted when aluminum plants shut down to resell their electricity at much higher prices.

Perhaps most pernicious, the political demand by California to be bailed out of a crisis of its own making has led to federal orders that, for example, have used scarce hydro resources in the Northwest, driving up prices now and setting up potentially dangerous shortages for this coming summer. Water used to generate electricity in the winter, when it normally isn't needed, is water that's unavailable next summer when the demand will be much higher.

Thus, a continued federal policy of forcing out-of-state providers to subsidize California creates a moral hazard, allowing California to avoid building unwanted power plants and to keep its consumers subsidized at artificially low prices. The more responsible political systems nearby are paying the price.

Finally, because some people tend to believe California's leaders when they blame "deregulation" for their political and market failures—even though deregulation never really existed in California—this has set back the cause of true deregulation elsewhere in the country. Over time, this means higher prices than necessary in other states, as the inefficiencies of regulation are extended to avoid the mess that California called deregulation.

SO WHAT IS THE SOLUTION?

But deregulation, real deregulation, is the solution, not the problem.

Just as with telephone service, airlines, and other previously regulated industries, we can have every confidence that a true open market in electricity will produce lower prices over time than the regulated system could. The market is more efficient than the regulators and politicians, as the California electricity fiasco has proved once again.

In fact, deregulation is working well almost everywhere in the United States but California.

Other states including New York, Massachusetts, and Rhode Island have recently allowed rate increases of 10% or more to be passed through to their customers. Western states like Oregon and Washington are also recognizing the need for rate hikes when energy prices rise. Freeing prices to rise (and fall) helps control excess demand. It recognizes the reality of higher natural gas prices, and prevents the expensive financial disruption we've seen in California.

In return for these modest price hikes—the first increases in 10 years or more—the open market in New England is now producing a great infusion of new power plant construction. Though well known for their conservation principles, the New England states allow construction of power plants within a reasonable period of a few years after the first proposal. The resulting construction of billions of dollars worth of clean, efficient new power plants, now coming on line, should assure abundant electricity at reasonable prices for many years to come. Utilities and individual customers are signing long-term contracts to lock in those prices. Meanwhile, dirty old oil plants are being crowded out of the New England marketplace.

In my view, California's way out is straightforward—since deregulation is already working so well in many other states. If California will move towards a reasonable approximation of the free market by letting customers' prices rise to reflect true wholesale prices, and by stopping its excessive opposition to entrepreneurial companies who want to spend billions of their own dollars to provide a commodity California needs—then Californians can regain the simple pleasure of on-demand electricity at a stable and reasonable price.

The CHAIRMAN. Thank you very much. Now, you are aware of the progress being made and the manner in which the California legislature and the Governor and others are trying to address the problem. The question for us is, is this going to be adequate for Wall Street to come in and finance the expansion of energy-producing facilities in California?

Mr. KONOLIGE. I think two answers to that, Mr. Chairman, would be—

The CHAIRMAN. Give me the straight answer first.

Mr. KONOLIGE. How about two straight answers, two aspects of it?

The CHAIRMAN. If I get that lucky, that is fine.

Mr. KONOLIGE. I guess I would start by saying the first thing Wall Street wants is certainty. Wall Street can deal with a lot of intricate laws if those are the laws and they stay in place, so write the laws and say, these are going to be the laws for the next 5, 10, 15 years.

The CHAIRMAN. You are talking to us or to California?

Mr. KONOLIGE. I am talking to the California folks who are working on this. If they put in position—if they were to say, for example, it will now take 4 years to site, to go through the process of siting a powerplant, well, that would be far from ideal, but there would be companies who would say, okay, I'll take my chances on 4 years. It is this possibility that it will not be 4 years, it will be 6 years, that really throws them for a loop.

So having transparency and clarity on, first of all, how long it takes to build the powerplants, and secondly, on what market for the power is going to be when the powerplant is finished. Specifically there I'm talking about, are there going to be attempts at price caps or not? Is there going to be an open market where, when you build a powerplant, you can go out, solicit customers, make an arm's length agreement and sell the power, take your chances on what the market conditions are? After all, as the builder you are putting billions at risk and if somebody wants to buy the power from you, you should be allowed to sell the power under a contractual arrangement.

The CHAIRMAN. I want to get at whether this is adequate. What California is doing now, is it going to be adequate? Is it going to meet the criteria of Wall Street?

Mr. KONOLIGE. Well, I do not think I have seen enough detail. I do not know that there are—

The CHAIRMAN. Do you have a copy of this letter the Governor sent?

Mr. KONOLIGE. The letter?

The CHAIRMAN. That was outlined by the Governor from California.

Senator FEINSTEIN. Mr. Chairman, I do not believe anyone has that letter. It was just brought in this morning.

The CHAIRMAN. Well, we will keep the record open, and we would like to have your analysis, because to go through this exercise and then find that it is inadequate from the standpoint of Wall Street's point of view, you have got to go back to the drawing board again, is that not correct?

Mr. KONOLIGE. Well, if the Governor listened to me and Wall Street, then that might be correct.

The CHAIRMAN. Well, you are either going to invest or you are not. You are looking for the highest return and the least risk.

Mr. KONOLIGE. No question about it.

The CHAIRMAN. What is your second point?

Mr. KONOLIGE. Those were the two points.

The CHAIRMAN. What we are doing here is, we are on a 5-minute time, and I think my time is running down, but all members will have 5 minutes. I want to reflect on something that Senator Bingaman brought to our attention relative to the role of the administration and the implication of all they seem to be doing is promoting

ANWR as some kind of, I guess, support for California's energy crisis.

I think that is incorrect, and I would point out for the record what the administration has done and the liability that the administration has passed on potentially to taxpayers throughout this country. On natural gas there was an order on January 19 to mandate an energy sale of natural gas. That can only be initiated by the President of the United States, I might add, and it is implemented by the Secretary of Energy, and that original order was initiated January 19. There was one extension on it to February 7, on electricity.

The original order, a sales order which is under the authority of the Secretary of Energy, was initiated on December 14. There have been five extensions to February 7, so to suggest that the administration has not done much I think is a gross inaccuracy of reality.

What the administration has done is, basically, in the event that California cannot repay the generators of this power, the Federal Government is going to have to meet that obligation, because this was an order of the Federal Government. I am sure it will be a full employment act for the lawyers on the theory of taking, if, indeed, California could not pay for it.

Now, how can California pay for it? Why, there are a number of options. Floating the bonds, guaranteeing the debt, financing and so forth, but I just want to make the record clear that this administration has basically passed on to the taxpayers of the entire United States the contingent liability associated with billions of dollars of power that has been ordered by this administration to give California time to work out of this problem.

Now, the only thing that is somewhat conclusive is the statement that they are not going to give them any more time beyond the 2-week period, which I believe ends February 7. I think what the administration may be trying to communicate to the American public and some of my colleagues is that when you become so dependent on outside sources, as California has, for electricity and energy, you risk your ability, if you will, to control your destiny, and there is a parallel here in oil, and I do not think anybody is unaware of it, and that is the reality that we are becoming more and more dependent on imported oil, 56 percent, so there is a parallel there and I think that is the point the administration is making.

Oil and ANWR is not going to bail out California's energy problem, but this administration is, I think, going certainly a long way by basically underwriting payment when California cannot pay it. It will not be billed for 2 months.

So with that, I would turn to Senator Bingaman.

Senator BINGAMAN. Thank you very much. One issue that is foremost in discussions here in Washington is whether any effort should be made at the Federal level to restrict the price of wholesale electricity going into California. Mr. Makovich, I do not think you had a chance to comment on that, and also Peter Fox-Penner, I did not hear your comment on that.

Dr. MAKOVICH. Well, the question of price caps, particularly price caps that will be set for the entire Western power market, I think it is important to realize price caps are not something you want to be a permanent feature of any market, but as I mentioned, this is

a market that was flawed and, of course, is in crisis, so I think we have to realize price caps are a very limited tool available to deal with this crisis.

The first danger is if you set price caps you will cause a severe distortion. For example, if you set these on the basis of what historic prices have been in the past, you run the danger of setting them far too low. Gas prices have doubled or tripled since a year ago.

The cost of NO_x allowances, the emission credits out there have increased substantially, and so it is very easy to take a typical powerplant right now, a 10,000 Btu powerplant at the prices for gas that were available just last Monday, with \$10 per pound on NO_x you can get to \$165 per megawatt hour on variable costs, so you have to be very careful you are not putting a cap at \$150 and giving them the incentive not to run.

If used, they should be temporary. They should not look indefinite, because that could discourage supply additions, and I would suggest if used you should tie it to reform and force California to fix the flaws of not approving enough powerplants and not paying for capacity.

Senator BINGAMAN. You still have not answered the question, should they be used? You said, if used. If you were advising FERC, would you recommend that they step up to that issue and try to do something in the way of controlling prices?

Dr. MAKOVICH. Well, I think, given how short it looks like this market is going to be for next summer, we are going to be in a crisis next summer as well and, as I said, in a crisis situation the temporary use of price caps may be an appropriate thing to get us through this crisis, because otherwise the burden of this big mistake just gets passed right on to customers.

Senator BINGAMAN. Peter, did you have a point of view you wanted to express?

Dr. FOX-PENNER. Yes, Senator. First of all, I would note that I think Kit mentioned that there are already caps on all of the deregulated markets, but they are at levels that are much higher than most of the markets are trading at, with the exception of California. California had a cap for most of last summer and the market traded right at that cap for almost the whole summer, particularly the second half of the summer.

I think I would echo what Mr. Makovich said, that it is I think extremely hard to set caps that are at a fair level and that do not sort of hamper or squelch investment, which is key to solving the problems in the long term, and you have to set them high enough to give people selling under the cap fair return on their investment, and that means you are essentially going back to the same determination you make in cost-based rates.

I think it is very difficult to transition to that for short period of time, Senator, and to transition off of it, and yet you do not want to be on it for a very long period of time, so I think they are a last resort. Realistically they are probably going to be necessary for next summer and I think the FERC has all the authority it needs, and has used it time and again when it has felt the need to, but I want to say, Senator, most importantly, that in California and elsewhere a much better approach than caps is long-term contracts.

Economically they do almost the same thing. You fix a price for a long period of time. It is a locked-in price, but as we just heard from Kit, Wall Street likes them. Powerplant developers are willing to sell under long-term contracts. The auction that California is holding now that Senator Feinstein mentioned is the best development to come along in California I have seen since the problem started. I think it is the path out of this. The utilities have to be able to cover the cost of those long-term contracts. They have to be at fair levels for sellers to sell and you will see, as Mr. Konolige mentioned, dozens of powerplant developers willing to sell under long-term contracts, willing to build plants, in my opinion.

Senator BINGAMAN. My time is up. I want to introduce into the record an article* that Paul Joskow and Edward Kahn have written on this general issue, and I will ask a question about it during the next opportunity.

Senator Campbell, you are next.

**STATEMENT OF HON. BEN NIGHORSE CAMPBELL,
U.S. SENATOR FROM COLORADO**

Senator CAMPBELL. Thank you, Mr. Chairman, and I thank the panel for the articulate, concise, and educational presentation.

I think there is some misconception about what the administration is doing now. I know I have read in the paper some quote that was attributed to President Bush that there would be Federal help for California but, as you probably know, one of your suggestions, Mr. Fox-Penner, is probably already in the process, because the President did convene a panel that is going to try to study not only the problem but the Federal involvement and what it should be.

Vice President Cheney is the chairman of that panel, and Andrew Lundquist, who was the staff director of this committee, just went over. In fact, I think yesterday was his last day with the committee, and so there is going to be some involvement, and hopefully we will find how to prevent future mistakes and help.

But I have to tell you, I do not have any questions, but I have a very strong affection for California, as my colleagues from California, Senator Boxer and Senator Feinstein, know. They have always been able to count on me when it is an issue with the State in which I was born and went to high school in and went to college in, and was a policeman and a teacher and on the Olympic team, all from California, and I still go out regularly. I have lots of relatives.

So I think that in some cases there may be some distasteful decisions we have to make, and some of us may hold our nose a little bit when you talk about what it is going to cost the American taxpayer to help, but I think we have to, and not only because of my affection for that State, but fully half of this committee, at least to my knowledge, comes from States and represents States that are in the same power grid.

Certainly my colleagues from Idaho and Wyoming and Montana and Oregon and so on, we are all on the same power grid, and I think some of us are convinced that the economy of California that relies so much on energy, and now energy from our States, if that

*The article has been retained in committee files.

economy takes a nose-dive and gets into a downward spiral we are all going to be pulled into it, so we all have a vested interest in trying to do what we can to stem that downward spiral.

I think most of us recognize that and we are going to be involved in it, but we also recognize that California cannot have it both ways. When I lived out there I lived in a little town called Wilton and one called Elk Grove, and I was right in the shadows of what was called Rancho Seco. It was a nuclear power-producing facility built by Sacramento—SMUD, I guess it was, Sacramento Municipal Utilities District, I think it was called, and I can still remember the regulatory problems they had getting that built in the late fifties, early sixties, when they were starting.

I left there in the early seventies, and up until that time it had never been turned on except to test. There was so much opposition, regulatory opposition, and I can still remember on the main road—I could see the towers right from our ranch—there was almost a daily stream of protestors going out there from the environmental community with placards, and all this stuff to prevent it from being fired up.

So I kind of reject the attitude, the notion that the energy-producing companies did not do it because the profits were not right. There were a number of reasons why they could not expand, in my view, and certainly opposition from regulatory agencies that was driven by environmental concerns was part of the deal, too.

I understand that that sat idle for a number of years, and another \$600 million was put into Rancho Seco to upgrade it, retrofit it and all that, and it still has not been turned on. It still does not produce power. I might be wrong in that, because I left there a number of years ago, but that is what I have heard, but clearly you cannot have it both ways. You cannot have a growing economy, a growing number of people, a growing reliance, as the Silicon Valley is, on energy, as manufacturing is on energy, and then at the same time not be willing to build the very apparatus that produces the energy.

I mean, I am not a nuclear scientist, but any damn fool ought to be able to figure that one out. You cannot have it both ways, and I think until the lawmakers of California come to that realization, that they are not going to have it both ways, then they are going to stay in this predicament ad infinitum, whether the Federal Government helps or not, because we cannot just support the State when the will to produce power-generating mechanisms is not there.

In fact, some people in California are advocating tearing down the very dams that produce some of the hydro electric power. You cannot have it that way. So I would hope, when we get through all of this and we do find a solution, that it is going to also help all of our States that are some of the power-producing States that are in that same grid, that the legislature of California will take the lead in trying to prevent a recurrence of what is happening now.

But just as one Senator, I wanted to just tell you and the other witnesses that I am absolutely committed to doing what ever I can, as one Senator, to try and resolve the problem, and I thank all of you for your testimony.

Thank you, Mr. Chairman.

Senator BINGAMAN. Senator Craig.

**STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR
FROM IDAHO**

Senator CRAIG. Thank you very much, Senator Bingaman. Gentlemen, I think we all agree that your testimony was insightful and certainly led to the kind of record that has to be established both for the Congress and for the American public to understand that what is going on out in California just did not happen by accident.

It either happened by failure to make the right decisions, or wrong decisions made. I am not sure how you cast it, but I do know there is a problem that goes beyond California, and my full statement will become a part of the record, but I did want to reflect on some of that problem as a Senator from the State of Idaho and part of that Pacific Northwest hydro base out there that is being dramatically affected at this moment by California.

I recognize that power flows both ways. There were times when California could produce surplus power, and that power flowed into the Pacific Northwest. There are times when we produce surplus power and it flowed to California, but that was a positive relationship when both sides of that flow were trying to keep relative balance with growth and recognize it and have those capacities and margins to offset. Obviously, in the last few years that's changed dramatically.

Let me give you some facts for the record that are a very real concern to me. This last week I was informed by the Bonneville Power Administration that it is raising power rates 60 percent over the next 5 years. Implementing this increase will require a 90-percent raise in rates for Northwest consumers over the next couple of years. I am suggesting to my consumers in Idaho that they send the bill to California. This will likely cause job losses. Our high-lift irrigation pump system may well have to shut down some of its operations. Hardships on the average consumer in the Pacific Northwest isn't because of the Pacific Northwest. It may well be because of California.

California's energy needs have already exhausted Coolee Dam's water supply for power production. Now, that is one of the largest hydro systems in the world, and it has been drained down dramatically in the last month because of a Federal order that I am very cautious ought to ever be implemented again, and I have suggested to the President and the Vice President that one time was too much, twice is way too much, and a third time would be a major error on the part of the Federal Government to force the Pacific Northwest to solve California's needs.

Yesterday, Mr. Chairman, I spoke with the new district commander of the Corps, the Army Corps of Engineers of the Walla Walla District and learned that orders were given to operators of the Federal Dvorjak project in Idaho to draft that reservoir 1 foot per day for the next 6 days in order to generate enough power for the current demand. Dvorjak happens to be in my State of Idaho.

Now, that is a reservoir that is 4 or 5 miles in length. To draft it down a foot a day is a very dramatic thing to do. Most importantly, that reservoir's water has been used over the last several years intermittently to provide water cooling temperatures to the

whole of the Snake-Columbia system for the purpose of moving fish downstream, fish that are endangered in the Snake and the Columbia system that many friends of the environmental community are extremely worried about, and yet at the same time the consequences of California is that we may lose capacity to augment an environment to make it more positive for the endangered fish of the Snake and Columbia system.

Well, that story goes on and on, and if we have exhausted Grand Coulee and have exhausted Dvorjak, then we turn to Libby and to Hungry Horse. I am afraid that my colleague from Montana will get extremely exercised over that.

Yes, the virus in California is affecting the Pacific Northwest dramatically, and for the reason you have all expressed. The grid system that is interlocked is not an isolated situation. If it were, my guess is we would be less sympathetic to California, because it truly would be a crisis of their own making. Today they are able to spread that crisis into the rest of the Pacific Northwest at a time when we are experiencing 62 percent of snow pack within the region. That is the water for next year's generating capacity, next summer's generating capacity, and that is a fairly average rate of moisture for the entire watershed region that provides moisture to the Snake and the Columbia River systems.

I will conclude, Mr. Chairman. The brown-outs of California now could well be the brown-outs of Idaho and Oregon and Washington next summer, and I am afraid that my consumers and my voters are not very sympathetic to California. Now, we will work in the short term to solve their problems, but if their solutions for the short term do not address the things you have talked about for their long-term needs, we will grow less sympathetic and a good deal more angry.

The CHAIRMAN. And you are happy this morning?

[Laughter.]

Senator CRAIG. Mr. Chairman, one last example. 2 cents per kilowatt hour versus \$500, to the average consumer out there that is \$2 a gallon going to \$500 a gallon milk. Now, in Idaho my folks could quit drinking milk for the short term. They cannot quit using power.

[The prepared statement of Senator Craig follows:]

PREPARED STATEMENT OF HON. LARRY E. CRAIG, U.S. SENATOR FROM IDAHO

Mr. Chairman, the California energy crisis is now the Western United States energy crisis, and perhaps soon, will be a national energy crisis.

Late last week, I was informed by the Bonneville Power Administration that it is raising power rates 60% over the next 5 years. Implementing this increase will require a 90% rise in rates for Northwest consumers over the next year. This will likely cause many job losses, farm foreclosures, and hardships for the most vulnerable citizens of the Pacific Northwest.

California's energy needs are rapidly exhausting Grand Coulee's water supply for power production. Yesterday, Mr. Chairman, I spoke with the new District Commander in the Corps of Engineer's Walla Walla District and learned that orders were given to the operators of the federal Dworshak project in Idaho to draft the reservoir one foot per day for the next six days in order to generate enough power to satisfy current demand. That is an incredible volume of water being depleted when you consider that the Dworshak reservoir is currently over forty-five miles in length.

Ironically, Mr. Chairman, the water drained from Dworshak will be used by downstream federal dams on the lower Snake and Columbia Rivers to produce power to serve BPA customers. As you may recall, Mr. Chairman, those dams on

the lower Snake River have been, and continue to be, the target of environmental groups who claim the power produced at those dams is not needed. Perhaps, now, more rational views will prevail in the dam breaching debate, and we can concentrate on recovery measures for fish that will work.

It appears, Mr. Chairman, that the volume of water in Dworshak will be exhausted soon and that the Corps will be forced to turn to Libby Dam and Hungry Horse Dam to serve the power demand. There is little or no water reserve left for power after those options are used. Add to that the condition of the snow pack which is only 62% of normal, and you begin to appreciate the growing concerns of the citizens in the Pacific Northwest.

Mr. Chairman, we need answers. Many of us on this Committee knew last Fall that there was something seriously wrong with the California deregulation experiment. Indeed, I went to the Floor of the Senate last October expressing concern about the problem in California and made a plea for a quick and honest assessment of the circumstances that were leading to failure there.

Some assessments are emerging and perhaps today, Mr. Chairman, we will supplement those assessments with important facts.

Clearly, editorial boards for major newspapers throughout the country are expressing their views on the California crisis.

In the past decade, according to the Census 2000 figures released last month, California added more residents than any other state in the nation—4.1 million. Unfortunately, that same decade, the state sacrificed intelligent growth on the altar of environmental extremism.

Those are not my words, Mr. Chairman. Those are the words of the editorial board of the Atlanta Constitution Newspaper written on Tuesday, January 16, 2001.

The editorial entitled "Balance Essential on Environment" goes on to say:

At the root of the problem is California's environmental regulation minefield, a primary reason that not one major power plant has come on line since the early '90s. In an over-the-top crusade for clean air and water, federal and state agencies have been manipulated by unelected vocal environmental groups determined to banish fossil fuels from California. As a result, the state mandates the toughest environmental regulations in the nation, cramping residents' choices and snowballing the cost of living and doing business in California. It's difficult to feel sympathy for people who gripe about high utility bills and outages when they meekly swallowed—indeed encouraged—the power grab by not-in-my-backyard "consumer" groups and environmental zealots touting wind farms and solar power.

Mr. Chairman, although environmental zealotry has contributed greatly to the energy crisis in the West, failure to ensure adequate fuel supply reserves are clearly complicating a quick and safe response to the pressing demand for reliable power.

During the past decade, we have heard a chorus of energy marketers and environmentalists sing the praises of natural gas as a cost effective and environmentally sensitive energy source. The past Administration has hailed natural gas as the cleanest fuel for home heating and has aggressively pushed utility companies to convert oil and coal-fired electric plants to gas.

The irony, Mr. Chairman, is that all this aggressive promotion has not been backed by commensurate efforts to ensure supply. Indeed, Mr. Chairman, what appears to be the case in the United States is that we lack a readily available and sufficient supply of natural gas to satisfy current demand, let alone the increasing demand that we expect in the immediate future. Consequently, natural gas prices are high and will continue to go up in the future.

This will not change until we reverse government policies that have foreclosed opportunities for choice of fuels. The policies of the past Administration contributed greatly to fuel shortages in the Northeast by preventing additional pipelines from being built thereby depriving hard hit consumers in the Northeast the option of lower cost natural gas.

Not only is this my opinion, Mr. Chairman, but also the opinion of many energy experts such as the well respected economist Daniel Yergin, and Federal Reserve Chairman, Alan Greenspan. Both have testified as to the lack of American investment in our energy infrastructure and have warned us of the economic consequences of failure to garner adequate supply.

Moreover, Mr. Chairman, the past Administration has complicated our ability to retrieve adequate supply by locking-up federal land deposits of this valuable energy source and increasing federal red-tape and bureaucratic inefficiencies that on the one hand runs up costs to our citizens and on the other denies consumers the choice they have been promised. Both of these results are unacceptable, Mr. Chairman.

I thank you for giving the Committee this opportunity to delve into the facts of California's energy crisis and I look forward to working with you and my colleagues on this Committee to successfully and quickly respond to this problem.

The CHAIRMAN. Thank you, Senator Craig. We will not pursue the milkman any more.

Senator Burns, from the great State of Montana.

Senator BURNS. I will not take a lot of time, Mr. Chairman. I want to thank you and I want to thank—

The CHAIRMAN. You have only got 5 minutes.

Senator BURNS. I would like unanimous consent that I may put my statement in the record.

The CHAIRMAN. Without objection.

[The prepared statement of Senator Burns follows:]

PREPARED STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR FROM MONTANA

Mr. Chairman, thank you for calling this very important, and well-timed hearing on "California's Electricity Crisis and Implications for the West." My constituents in Montana are watching us very closely today because they need to see leadership. They need to see that California is taking a responsible role in leading us out of this crisis. They need to see leadership from the Bush Administration. They need to see leadership by this Committee. And they need to see leadership within the energy industry.

First, we need leadership out of our new administration. The Bush Administration, to their credit, is following up on their campaign promise to structure a national energy policy that takes into account everyone in America. They are sensitive to environmental concerns, while making sure that production and generation increases so that we do not handcuff the United States' economy to such a degree as to minimize our role in the world's economy. The United States should take an active role in our world's energy policy, and our role should encompass the needs and desires of all facets of the U.S. economy. In short, I am confident that the Bush Administration will lead us towards a regulatory regime in the energy industry that allows all of America to take part in economic revitalization.

Second, America needs to see this Committee take an active role in our nation's energy problems. Many critiques of deregulation want to say that deregulation is solely to blame for our current energy problems. I want to make it clear that in determining what to do about our energy problems we must know the difference between correlation and causation. Because two related events happened at nearly the same time, it does not necessarily mean that one caused the other. Critics say deregulation caused our current energy problems. I find that hard to believe after analyzing some basic statistics. In the Northwest, demand for electricity is up at least 24 percent over the last 10 years. At the same time, generating capacity is only up around 3-4 percent. I am not an economist, but I can tell you that balance within our electricity industry is skewed towards higher price. Therefore, when we look at our role in solving the energy shortage, I want this committee to take an active role in seeing that we lessen some of the impediments to electricity generation and transmission. Let's make sure that the federal agencies that oversee the energy industry are streamlining their processes to help ensure that supply meets demand.

In Montana, we have the resources and we have the ability to bring more power plants on line. However, even if we were producing more power, we do not have the ability to bring this power to market because I am told that all of the transmission lines are at maximum load. The American people are looking for leadership from this Committee. Let's take an active role in ensuring we streamline government so that it enhances industry's ability to generate and transmit electricity.

Last, the energy industry itself must provide leadership. Many people say that industry is making today's energy shortages even worse. I think that there are some legitimate concerns revolving around today's energy producers. If it is true that energy producers are taking enormous profits at the expense of the American economy, then they need to analyze their practices and show restraint. I understand that publicly-held companies have a fiduciary duty to maximize profits. However, consumers also have a right to fair market prices that are not the result of market manipulation and industry collusion. While I continue to maintain that our largest problem is lack of supply, I will keep my eye on our energy producers to make sure they are not exacerbating our problems. I remain confident that our producers will realize they have a duty to consumers as well as to shareholders. I believe they will help lead America back to stable energy prices.

Mr. Chairman, again I thank you for calling this hearing today, and I look forward to the testimony of our panelists.

Senator BURNS. I happen to look at the California situation maybe a little bit different, because I still think they are part of this union, and we have to do something to help our folks in California, although I will tell you this is a good time to run a good commercial for Montana. Those folks that want to do business and need a lot of power, we produce about 3,900 megawatts a year, and we use less than that. We would like to move more into the California market, but I am told that the transmission lines and our ability to transmit that power is limited and almost at capacity now, so those of you who want to look to Montana, why, you may do so. You can call my commercial office downtown. They will set you up.

I do believe that that is one way that we can solve some of our problem on the Western grid. I think the whole thing needs to be looked at in totality. We look to the BPA for part of our power. We look also to WAPPA, to the East, and of course our own ability to produce in Montana. I think mine-mouth using coal, clean coal technology, and mine-mouth generation, and moving it in transmission lines, is probably the best way we have to addressing the problems we have in California. That may not be the cheapest way, but it is a reliable way in order to address that.

Curves should have told us something, Mr. Makovich, as near as 5 years ago if we look at everything, we looked at Economics 101 as we watched curves, and we could see where the demand for electricity was going up, yet our curve for production was just barely going up. Like, 24 percent increase in the last 10 years and only a 3 percent increase in our generating capacity tells us that that curve had to start at least 5, 6 years ago, and someone did not pick up on that.

You made the comment that the overlapping of jurisdictions—I think, Peter, maybe you made that, of jurisdictions of FERC and State, lends a lot of confusion on where are we to go. We have had applications in for small dams, the recertifications of FERC, and that takes forever for some reason or another, 4 or 5 years on recertification. That should not take that long. Do we pass legislation that gives our regulatory people a time line in which to complete recertification, or to do something that is required, and would any of you want to comment on that?

Dr. MAKOVICH. I think that each State has its own unique set of requirements. In order to site and permit powerplants I think a time line requirement is a good idea, but I think more importantly, I think States have to have a minimum target of approvals regardless of how long this process is going to take, or what time line they have got.

For example, in California's case, if they are not approving 1,200 megawatts a year then they are not keeping up with demand, and so I think you have to force them to meet some targets.

Senator BURNS. Peter, what is the increase in demand in California? What is the growth? I am told it is around 3,000 megawatts a year. Is it increasing that much?

Senator FEINSTEIN. Demand went up 14 percent last year. I cannot translate that into megawatts.

Dr. FOX-PENNER. I think demand went up, I believe, 4 percent last year, which was extraordinary, off of 50,000 megawatts. I am

not good at doing that in my head, but 3,000 sounds a little too high.

Dr. MAKOVICH. Actually, the peak demand this last summer was a little bit below where it was the summer before. If you look at peak demand, the maximum demand in California, it is growing, if you correct for weather and the business cycle, about 2 percent a year.

Dr. FOX-PENNER. I got about 2,000 megawatts

Senator BURNS. In other words, we were at least close, but it is hard, it seems like in the investment world—as our man from Morgan Stanley will tell you, it is hard in this business to build a church for the Easter crowd, it seems like, but nevertheless it looks like we are going to have to do some of those activities, is that correct?

Dr. MAKOVICH. Yes.

The CHAIRMAN. Your time has expired.

Senator BURNS. And I will yield, and I have got something else to do, but I will be back in time to talk to the industry. Thank you for your testimony today. I appreciate that very much.

The CHAIRMAN. Thank you, Senator Burns.

Senator Akaka.

Senator AKAKA. Thank you very much, Mr. Chairman, and thank you for having this hearing.

Mr. Makovich, you stated that what has happened is that there is a severe shortage of power in California, and Mr. Fox-Penner said it is a tragedy of immense proportion, and the Senators from California have indicated that it is so severe that Congress has to act immediately on this.

Mr. Makovich pointed out that part of the problem is that consumption has grown 24 percent and there are structural flaws creating the problem. You also mentioned, Mr. Makovich, that we need to create lower demand as well as increase power production, and my question to you on those two, on creating lower demand and increasing power production, is whether you have any suggestions or any ideas as to how this can be done.

Dr. MAKOVICH. Well, when we look at the magnitude of this shortage, as I mentioned, 5,000 megawatts, we are at least 5,000 megawatts short, I think it is important to recognize conservation and efficiency gains which have been occurring in California over the past 5 to 10 years. They can help on this problem but they cannot even be a major solution here. What you can get in the short run on conservation and additional interruptible load will help, but you have to do—this is not a question of just shutting off all of the swimming pool pumps in California. This is a major shortage that conservation and efficiency cannot meet alone, and so what it means on the supply side is do everything you can on the demand side, but on the supply side you need emergency generation. You need to bring barges in where possible to California with generating capability.

I think if you could put some flexibility in environmental regulations to allow backup systems at hospitals and universities and hotels, the diesel gen sets they have for emergency purposes to be able to run this coming summer, that is another thing that would help. I think you have to scramble right now on both the demand

side and the supply side, because we have a looming crisis again this summer.

Senator AKAKA. Mr. Fox-Penner.

Dr. FOX-PENNER. Senator, there are many conservation and pricing measures that I think should be looked at. I do agree that many of them take a while to implement and will not be ready for this summer, just as it is going to be hard to build any permanent powerplants for the summer, I would say impossible, but I hope that this episode teaches us that we must continue those efforts. There is a whole variety of efficiency options and we are going to need lots of power for the long run here, and we cannot take our eye off that ball.

There are a few, though, short-term demand-related measures that I feel are extremely important, and one of them is to accelerate the implementation of technologies that make buildings demand-responsive price-responsive themselves. Buildings can actually reduce their energy use dramatically with no humans involved in response to price signals, and research has shown, as I mentioned in my testimony, that until we get technologies like this and more demand response, we will never have fully working electric markets, so we have to do this. We should do it as quickly as we possibly can, and this sort of thing does not take a terribly long time to implement.

Mr. KONOLIGE. If I might mention one suggestion, the standard, most straightforward conservation measure is to raise prices to customers, and since California has already raised prices 10 percent, I think that will have some impact on lowering demand.

If it were to go ahead with some of these suggestions that have been raised in the political process so far and increase prices further, they would have to be increased for the summer, perhaps an emergency surcharge of some kind would be a reasonable way to really dampen demand. In fact, last summer, when San Diego radically raised prices, there was an immediate sharp decrease in the usage in San Diego, as you would expect.

So while that may sound like shock therapy, if the problem is bad enough, namely blackouts, it might be something that the State may want to consider.

The CHAIRMAN. Senator Akaka, your time is up.

Senator AKAKA. Thank you very much, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Akaka.

Senator Wyden.

Senator WYDEN. Thank you, Mr. Chairman. What is especially troubling to me is that the same California utilities that engaged in the questionable transfer of billions of dollars to their shareholders and others cannot provide iron-clad guarantees that we are going to be paid back for the power we have already given, so I am not going to support another megawatt of power to California unless we have real reforms that truly protect everybody in the West.

My sense is, and this is my question for our witnesses, that a critical first step in terms of real reform is to lift this veil of secrecy that surrounds the energy markets. It seems to me it is time to make information available about market power and transmission capability and outages, and I would like to ask, perhaps Mr. Makovich and Dr. Penner, do you agree that California, the Cali-

ifornia ISO and the regional transmission organizations, ought to provide more information so that the public is in a position, and investors and others, to make intelligent choices?

Dr. Penner.

Dr. FOX-PENNER. Senator, I would only agree a little bit. I think the information available about the electric industry, although it has declined significantly as deregulation came in, is still pretty good and probably more, I would say from the industry's standpoint, burdensome than in almost any other industry, and it is not the greatest barrier that we analysts see to figuring out what is going on.

Now, having said that, I think there are some minor improvements between EIA and the FERC in their information collection. I would be glad to discuss them off-line, and though they are small, I think quite small, they would be quite useful in making studies, but it is generally not a major issue.

Senator WYDEN. I am going to give you a copy of the letter from the Oregon Public Utility Commission, because they say they are basically in the dark about these issues. I mean, just the debate that is going on right now with respect to deregulation, it is very hard to get accurate objective facts about how these markets work.

Mr. Makovich, did you want to take a crack at it?

Dr. MAKOVICH. Sure. Good information flows are the life blood of markets that work well. I think the evidence in the California energy market was that having set up a formal power exchange to replace the informal wholesale market that had existed in the California area did a lot to improve information flows about supply, demand, and price at any point in time.

In fact, what the information said was, unless this California market is in a shortage, prices are too low to support investment, so the information flow to investors was pretty good. Do not build a powerplant in California because it is not profitable.

Now, there are some information flaws, and one in particular is, I think it would help if planned outages of powerplants—

Senator WYDEN. That is one of the first things I want to see in a California bill, is outages. What about transmission capability?

Dr. MAKOVICH. Well, if outages were reported I think we would have much better coordination, and we would avoid the problem of everybody being down at the same time because they didn't know everyone else was going to be down, but on the transmission end, transmission network is very, very complicated.

If you think this wholesale market restructuring is a mess, well, if you dig into the transmission restructuring right now, we think the transmission system in the United States right now can be described as being in a state of gridlock. People do not know how to price transmission. They do not know how to manage the congestion. We have got all sorts of schemes at work right now to try to figure this out, other grand experiments here, and yes, there are many economic investments that could create better power flows, higher integration in the West that are currently not being done because of this tremendous state of flux.

Senator WYDEN. I guess my concern is that if we are entering this era of electric power competition, electricity is traded as a commodity, but there is not open access to the information that is nec-

essary for a commodities market to function properly, it is going to be hard to make real progress.

So I would just say to our friends from California that we have been more than a good neighbor here. We are going to need to see some reforms that benefit everybody in the region, and it seems to me right at the heart of that discussion is getting good information rather than keeping the public in the dark, and that is what my constituents are troubled by at a time when we have got a lot of economic hurt in our region and we are forced to send more power to California without any guarantees.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Wyden.

Senator Thomas.

Senator THOMAS. Thank you, Mr. Chairman. I also have a statement that I would like to have entered into the record.

The CHAIRMAN. It will be entered into the record without objection.

[The prepared statement of Senator Thomas follows:]

PREPARED STATEMENT OF HON. CRAIG THOMAS, U.S. SENATOR FROM WYOMING

Thank you, Mr. Chairman, for holding this hearing today. We are all very concerned about the electricity crisis that is occurring in and around California, especially those of us from the West. California's version of deregulation has not worked well to date. In fact, it is putting distorted market pressures on electric power rates in neighboring states and we, in Wyoming, are beginning to see signs of the increasing price pressures. This is not good news for my constituents—on top of high prices for natural gas this winter, electricity power rates will rise as well.

For the last eight years we have seen a flurry of stringent environmental regulations combined with a campaign against off-shore drilling, coal fired power plants, nuclear power plants, developing minerals on public lands, and hydro relicensing—all contributing to an overall supply problem. California led this march. And now, they, along with the rest of the country, are feeling the affects of having no energy policy in place.

Even so, to a large extent, the problems facing California are unique to that state:

- No major new generation facilities have been built in California in more than a decade, and in the meantime, demand has soared;
- Inadequate natural gas transportation capacity into the state, coupled with increasing reliance on natural gas for power generation, has helped drive up natural gas prices to the highest levels in the country, thus further increasing the price of electricity;
- Environmental and facility siting restrictions that are the toughest in the nation make it difficult to build new generation or even operate existing facilities for the entire year;
- Abnormally dry weather has reduced the amount of available hydropower generation by nearly 40% this winter;
- A critical shortage of transmission capacity in some regions of the state makes it difficult to efficiently transmit power to where it is needed;
- An almost total reliance on volatile day-ahead and hour-ahead electricity markets by prohibiting effective hedging and long-term contracting by incumbent utilities has driven up prices.

The shortage of generation in the State of California has had a ripple effect throughout the entire interconnected West, where wholesale prices have been driven upward. In general, the electric power market is fraught with uncertainty with about half of the states moving toward electric industry restructuring and deregulation and about half the states still served under regulated monopoly provisioning of electricity to customers. This uncertain environment has resulted in a lack of capital investment in electric power generating facilities and in electric power transmission facilities. We now have a market situation where growth in demand for electric power has been much faster than growth in supply.

I have always been a supporter of electric industry restructuring. Having been involved in the electric power industry, I understand the unique characteristics of each state. I have supported legislation that empowers the states to restructure

their electric industries at the rate and in the way they decide. Legislation should not impose a "retail choice mandate" or deadline on the states so as to fully allow the best market ideas and approaches to occur. A federal mandate on the states requiring retail competition by a date certain is not in the best interest of all classes of consumers.

Despite the problems in California, states are in the best position to deal with this complex issue. Although the cost of electricity varies across the country, electric industry restructuring can result in lower consumer prices for everyday goods and services, the development of innovative new products and services, and a growing, more productive economy. Throughout the country, wholesale markets are not functioning as efficiently as they should. In addition, the situation in California has made it clear that we should be seeking to encourage, not discourage, the building of new generation and transmission facilities that are needed to meet the demands of growing economy.

That is why I believe Congress can help make wholesale markets work more efficiently, while deferring to the states on the question of retail markets, including whether to restructure the electric industry in their respective states. I plan to introduce legislation that would help wholesale markets function better, would encourage the building of new generation and transmission facilities, would enhance system reliability and that would provide the regulatory certainly necessary for investment in this critical industry.

Thank you to all the witnesses and I look forward to hearing your testimony.

Senator THOMAS. We talk about transmission. We ought to take some information from Senator Akaka from Hawaii. They have dealt with the interstate transmission very well.

[Laughter.]

Senator THOMAS. I think certainly we have a crisis in California, and one we need to deal with, but I have been around this business quite a while, and it seems to me we ought to be looking at where we want to be over time with this whole reregulation thing, and we ought not to ignore that as we deal with this particular problem.

I think some of you agreed with the idea that FERC ought to control, set some limits on the wholesale prices. What about if California does not change the retail price? Is that going to be workable?

Dr. MAKOVICH. Well, obviously, in a well-functioning market you do not want to have customer prices capped. You want them to be linked to what is going on in the wholesale markets, so this tremendous misalignment we have now, where utilities are forced to buy wholesale power in multiples of what they can pass along to customers, is completely unsustainable and, of course, it has brought the major utilities to the brink of bankruptcy, and it has contributed to the shortage problem.

Senator THOMAS. My question is, should FERC set a price limit on wholesale power if California is going to continue to have a limit on retail?

Dr. MAKOVICH. As I said, if they are not aligned properly, as I mentioned—

Senator THOMAS. Are they aligned properly?

Dr. MAKOVICH. Now, no, they are not.

Mr. KONOLIGE. I guess my feeling would be a little different from the other panelists, which is, I think that price caps at the wholesale level have no good use. They inevitable distort the market, and I think we can see very clearly in California that the lower they made the price cap, the higher the actual prices occurred.

Now, how could that happen? Well, what happened was that the out-of-State suppliers would not sell below their cost into California

so the ISO and the PX would have to go around and around their own price caps, and so the actual prices were significantly higher.

Senator THOMAS. So what is your suggestion for the short-term remedy?

Mr. KONOLIGE. I think for the short-term remedy, say for this summer—

Senator THOMAS. Well, it is going to be several years, a couple of years before you get more generation.

Mr. KONOLIGE. I think the solution is that the State of California should pay the market price. The market price can be significantly lower by this summer if the authorities move ahead with their initiative to sign long-term contracts with the suppliers of power. The long-term contracts are a much, much better solution than price caps. Long-term contracts are the market solution to the problem that the price caps attempt to address, and we know they are the right price because those are the prices that both sides can agree to.

Senator THOMAS. They would have to be pretty low if you are going to continue to have retail limits.

Mr. KONOLIGE. Well, I think it is clear that long-term or short-term price caps in California, because of higher gas prices, because of low hydro conditions, because of the NO_x credits problem, the actual cost of energy in California of electricity is significantly higher than was embedded in the rates of the utilities.

I mean, there is a significant discount that the people in California are getting on the actual price of electricity today. I would say that sooner rather than later the end customers have to start paying the freight, but I think the way that you make that an acceptable transition is, you go to the generating companies and you sign long-term contracts with them. You say, what is your best price for 10 years, if we levelize it, so that they will give up the high near-term spot prices in return for some assurance that they will get paid good prices out 3, 4, 5, 8 years from now.

Senator THOMAS. That is fine for the generators, but the distributors are then caught in the middle.

Mr. Fox-Penner.

Dr. FOX-PENNER. Well, I largely agree with Mr. Konolige. I think long-term contracts are far preferable to price caps, and the States are moving in that direction. They can set a true competitive market price for power starting this summer and moving forward, and I do think that over time that retail prices, or the prices that distributors collect to pay for that wholesale power, have to come into alignment with fair competitive wholesale prices. That is sound economics, and I just think it is the only possible solution in the long run.

Now, you have to take care of special cases and we have to take care of low income customers, and I am sure that is true in your State, too, Senator, and we have to align the time path of these things, and maybe do a phase-in and so on, but they have to reach alignment.

The CHAIRMAN. Senator Thomas, your time is up. Thank you.

Senator Feinstein.

Senator FEINSTEIN. Thank you, Mr. Chairman. I just want to put something out for these three gentlemen.

Senator LANDRIEU. I am sorry, Mr. Chairman, are we speaking in order of attendance?

The CHAIRMAN. Yes. Senator Feinstein.

Senator FEINSTEIN. I would just like to correct the record. California ISO has said that the State will be short 2,000 to 5,000 megawatts every day this summer, and so the bilateral contracts alone, gentlemen, are not going to take care of it, and that has to be realized. That is the reason why something needs to be done in the short term to stabilize the generation market.

Let me read to you, if I might—Senator Bingaman has put together, put in the record a study out of MIT titled, “A Quantitative Analysis of Pricing Behavior in California’s Wholesale Electricity Market During Summer 2000.” Let me quote from that report. Paul Joskow and Edward Kahn are the authors.

“There is considerable empirical evidence to support a presumption that the high prices experienced in the summer of 2000 reflect the withholding of supplies from the market by suppliers, generators, or marketers. We base these conclusions on results of the two analyses described herein. One analysis is a competitive benchmark price analysis and the other is a capacity withholding analysis. There was price-gouging in this market.”

Now, that raises the problem, because the FERC found that prices in this market were unjust and unreasonable, but the FERC decided not to do anything about it, so my point is, while everybody blames California, remember this. California is bigger than 21 other States put together. California is the fourth most energy efficient State in the Union, and I will put documentation in the record to support that. There is a huge problem out there. California is moving—it will build new generation facilities. It needs time to do that.

California today is not receiving anybody’s power allotment. This is surplus power that is coming in. California generates 2,000 to 5,000 megawatts of power a year that go outside of the State by bilateral contracts. We have honored those contracts, and will continue to honor those contracts.

There is a real problem in just blaming the State. You know, there are huge water shortages affecting hydroelectric power up in the Bonneville area. That is subsidized power, I agree, the rates have to go up. There is legislation being considered by the legislature to raise rates, as a matter of fact, if consumers exceed a baseline consumption level. What they are talking about is setting rates higher for those that exceed the baseline, which is about 75 percent of the people in the State, so I think there will be at least some attempt to fix the brokenness in the market on that end.

But the point I want to make is, there is not enough power. Now, this means the common carrier lines for jet fuel will be clogged. We will not get jet fuel from, say, Chevron to airports on time. You are going to continue to have business closures. It is going to impact communication between the States. It is a very serious issue.

Now, what I am asking you gentlemen, assume for a moment what I have said is right, and I believe it is, but assume it is right. What controls the market from charging \$3,000 per megawatt in this summer? Unless you have some mechanism—the FERC has tried under an administrative law judge for over a month to bring

some long-term contracts and was unable to succeed. They could not come to terms, so you have a ribald market out there.

What do you suggest would get us through the summer, short of somebody being able to make a decision as to how much profit and how much cost should be passed through, and some control? If utilities can only pass through \$64 a megawatt hour and they are buying at \$3,000 a megawatt hour, what is going to solve the problem?

Mr. KONOLIGE. Well, I would first suggest, Senator, that if your problem is a shortage of supply, standard economic theory would be that if you put a price cap on the supply you will get less of the supply and not more.

Senator FEINSTEIN. But what is your solution?

Mr. KONOLIGE. The solution is twofold. One is, sign all the long-term contracts you can.

Senator FEINSTEIN. It will not be enough. It will be 2,000 to 5,000 megawatts short. If I am wrong, I will buy you lunch.

Mr. KONOLIGE. That is fine. Unfortunately, that is such a hard thing to prove. It is in the future as well.

Senator FEINSTEIN. This is the ISO. This is not my statement. No matter what they do, they are going to be short this summer.

Mr. KONOLIGE. I would say if you put a price cap you will never fill that gap. In other words, if you do not allow yourself to pay a lot of money for that 2,000 to 5,000 megawatts, you will never get it.

If you put the price up enough, then there would be 2,000 to 5,000 megawatts that, for example that people in Idaho or the State of Washington might decide at the right price they will be happy to send to California, but putting a price cap I think has the exact opposite effect of what you are trying to achieve. A price cap will not increase supply.

Senator FEINSTEIN. Well, there was a cap, one of \$250. All of this happened when the price cap was taken off. Now, what we are talking about is just something to get us through the time when supply and demand can meet, and once you have got the supply, then you do not have to worry about taking the cap off then.

Mr. KONOLIGE. Well, I think what might work, and not that I would necessarily agree that it is a good idea, is if you had some sort of FERC order that required people from outside the State to sell into California at some kind of fixed price, but as I think you have heard on the panel today, there are probably a number of Senators who would not feel that that was an appropriate way to deal with the problem.

Another approach, obviously, is if you are 2,000 or 5,000 megawatts short, do not use the 2,000 to 5,000 megawatts. I mean, California is well-known for its conservation programs. Perhaps there can be a crash program to improve them so that there is even less use.

Senator FEINSTEIN. Do you know what this would do to the economy?

Senator BINGAMAN. I am sorry, we are going to have to go to the next questioner.

Senator Dorgan.

Senator DORGAN. Thank you very much. Let me thank the panelists, and I want to pledge to be helpful, Senator Feinstein and oth-

ers who are interested in this issue. This is a terribly difficult issue, but let me also say, just as a matter of course, that the energy issues are complicated, not just this issue. In many ways this is not just about California, and it is not just about electricity.

I had a hearing in North Dakota 2 days ago talking about natural gas prices propane prices, heating fuel prices, and so we have a lot of energy issues. Our country has studiously managed to avoid a comprehensive energy policy for some decades now, and we continue to let much of our energy future depend up on decisions made by OPEC ministers, which in my judgment is a thoughtless policy, and we have to change it.

The method of deregulating electricity in California, however, is a giant billboard for failure, in my judgment. They constructed something that could not possibly work. I am a skeptic of deregulation in any event, but clearly the construct of the California experience was unworkable. Deregulation, we have got a lot of experience with it I would say to Senator Feinstein.

In the next panel we will have Californians testify, and to the extent that they flew here commercially, they paid half as much to fly from Los Angeles to Washington as they would have paid to fly half as far from Bismarck to Washington. That is gratis of deregulation, a so-called "market system," when you have several large participants deciding how they are going to price a product that is essential to us, and if I might just for therapy purposes say, another part of the market system is a short stop that gets \$256 million a year and a short teacher in Fargo that gets \$35,000 a year. \$256 million over 10 years is the short stop's contract. That is a market system.

Or the short-tempered Judge Judy paid \$7 million a year and Justice Rehnquist \$180,000 a year, so the market system is a very interesting place, but the market system itself, I would say to Mr. Makovich, you talked about this. You said that the general assumption that the electricity markets are just like other commodity markets is wrong, and I welcomed that, because it is a very different set of circumstances, to talk about electricity versus chewing gum, and you point to the unique characteristics, including capacity versus generation.

You said California has set up an energy market that paid power generators to run their powerplants but did not set up any market mechanism to pay generators for capacity. In other words, no capacity price signal to create an incentive to bring on new capacity.

Given that flaw in the construct which I heard in your testimony, these high wholesale prices then are not an incentive to construct new capacity, are they? In fact, they would be an incentive to generate a windfall for the current owners of capacity. Do you agree or disagree with that?

Dr. MAKOVICH. Well, as I said, there is a right way and a wrong way to set up a power market. I think that power markets can be set up properly, but relying on this energy market alone to provide an investment signal is a mistake.

The price signal we have got right now is far higher than it needs to be, but the most important thing, it is far too late. This was a signal that needed to be there a few years ago when we started deregulation. Put any market of any kind of commodity in

the shortage we are in right now, prices will go up, and it is also due to the fact that electric use, as someone mentioned, is very critical to our every-day lives.

What uses a lot of electricity are refrigerators and air conditioners and so when we see a shortage like this and prices run up, this is a shortage, and all markets will do that.

Now, the question of price-gauging, if that is meant to imply, then, that people are manipulating this market, the generators that bought generating assets out there were not the ones that prevented anybody from building powerplants. They were not the ones that set the rules up for how this market will be flawed in its operations, and so if we look at these high prices that we have got now and coming up for the summer, we have to remember, the flawed markets, it was not too long ago that the Western power markets cleared at zero, and so you know, the flaw in these markets created prices that were too low in the past and not prices that are too high, and if you fix the market you can get it right.

Senator DORGAN. Mr. Makovich, thank you for that. Lest anyone misunderstand my statements, I have studied economics and taught economics in college. I am a fan of the free market system, but the free market system exists and works when you have robust competition with easy entry and easy exit, and sellers willing to compete with each other.

I must say, in my judgment, as I have watched some essential services be deregulated, airlines being one, railroads another, and some others, that there are many in this country that have suffered dramatically, dramatic injury as a result of that, and that is why I assume that California created a construct that would try to protect the consumer, but that construct was, in my judgment, at its outset unworkable, and this may be a billboard for the failure of the California system. It may be a billboard for a much broader failure in my judgment, as well, with respect to deregulation.

Mr. Chairman, thank you very much.

Senator BINGAMAN. Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman.

Senator BINGAMAN. Let me just give people the order that I was given here, Senator Hagel, who is not here, Senator Cantwell, Senator Kyl, who is not here right now, Senator Smith, Senator Landrieu, and Senator Nickles. So, Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman. As the newest member, I always appreciate that opportunity, and I will submit testimony for the record, but I did want to make a few points.

[The prepared statement of Senator Cantwell follows:]

PREPARED STATEMENT OF HON. MARIA CANTWELL, U.S. SENATOR FROM WASHINGTON

Thank you, Mr. Chairman. I want to thank you for agreeing to have this hearing to address the larger implications of the California crisis, especially for Washington state. One significant consequence for my constituents is the loss of a paycheck as their employers are closing their doors. We hope temporarily.

These closures are not limited to our aluminum industry but include timber products, refineries, steel foundries and many other manufacturers, soon to be followed by companies that make a living supporting or using the by-products of these same companies. At the Georgia-Pacific mill in Bellingham, management made the tough decision that Christmas would feature the layoff of 850 employees. Public agencies are faced with the prospect of curtailing services to meet unexpected costs, such as

the waste water treatment facility in King County which already needs an additional \$8 million to cover energy costs.

Let me be clear that the people of the Northwest respect the long-standing power-sharing relationship with California and we support its continuation over the long term. We appreciate Senator Feinstein's and Governor Davis's letters of thanks to BPA for its role in helping to avert rolling blackouts in California and we stand ready to be partners in resolving this western crisis. However, let me be equally clear that I cannot support "solutions" which require more pain for Northwest consumers in order to maintain current rates or increase supply in California.

The continuation of the Secretary's order that forces the sale of excess power further erodes the financial stability of Northwest utilities. This, combined with the continued volatility of the entire western marketplace, only guarantees more drastic rate increases in order to cover costs, including the Treasury payment by BPA. While you will hear later more details of Northwest utilities' actions, BPA most recently announced a 60% rate increase over 5 years, with a 95% increase in the first year. These increases, which have been put in motion but not yet fully felt by many industrial and residential customers, will have further negative effects on our economy, and on the family paycheck.

Again, I appreciate having the Northwest's voice heard today and I look forward to working with my colleagues and our witnesses to help resolve this crisis in the West. Washington State's concerns cannot remain an afterthought. Our people, our cities, our rural communities and our industries are reeling from the impact already.

As some of you may remember from an earlier economic crisis in Washington state, the Boeing downturn of the 1970's, there was a billboard that asked, "Will the last person out of Seattle please turn off the lights?" Through dramatic rate hikes and shuttered businesses, the billboard this time may well read, "Will the last person out of Seattle please blow out the candle?"

My question for the panel focuses on the terms "dysfunctional and irrational" which have increasingly been used to describe our shared marketplace. As a result, a number of important figures in the energy industry have been calling for temporary price caps in the western market—many of whom are incredulous that they would ever have found themselves advocating for market controls. As a further example, the Attorney General of Washington state, Christine Gregoire, yesterday announced an investigation of price manipulation and unfair business practices.

Have we reached a point in the market where some form of temporary price caps would help restore us to a rational marketplace? How is this answer affected by the requirements of the Federal Power Act that wholesale rates be just and reasonable?

Senator CANTWELL. This is a very important hearing this morning not only for the State of Washington but for California and the Northwest, so I appreciate your comments in referring to the larger region and the challenges we face.

Obviously, the impact on the Northwest is that employers are closing the doors, and I hope that is only temporarily, and this is not just limited to the aluminum industry but the timber products refineries, steel foundries, and many other manufacturers I think are all impacted by this.

At Georgia Pacific a mill in Bellingham made a decision this Christmas to lay off about 850 employees, so let me be clear that the people of the Northwest understand the longstanding power-sharing relationship we have with California, and we support that continuation over the long term, and I certainly appreciate Senator Feinstein's leadership on this and Governor Davis in working with the region's Governors, but obviously I just want to make a point, too, about the Northwest Power.

BPA is a cost-based power and operates with ratepayers' revenues. The ratepayers repay the debt to the Federal Treasury. They pay the interest on it, and they also repay non-Federal debt, so I very much want to work on a regional solution, but obviously very concerned that the Northwest in the Secretary's continued force of

the sale of excess power, it also erodes the financial stability of those utilities within the Northwest.

I will not go on with my further comments about the rate increases that we are seeing in the Northwest, not solely because of California, but the complexity of the issue, but that gives some impact. What is your sense of the economic impact to the Northwest and the urgency in resolving this as the executive order continues?

Mr. KONOLIGE. Well, I guess you are referring to the Department of Energy order, which I guess is scheduled to not continue for very much longer from what I understand that the administration has said. I think they have said February 7 was going to be the end of that, so that may be a self-solving situation, but we will see.

To the extent that that continues, but regardless of whether there is an order like that, I think the high prices in California, I mean, California has a market that imports electricity. Its wholesale prices, whatever the situation with the price caps, the price caps can only affect inside California, so there has been anomaly all along, where California is willing to pay higher prices for Northwestern Power and much lower prices for electricity inside California, so the fact that California is in a very massive short supply situation sucks in power from the rest of the region and forces prices higher.

In other words, any seller in the Northwest such as an aluminum plant who did not even used to be a seller will feel the very strong economic pressure of very high market prices, so directly and indirectly high prices in California cannot help but have a significant effect in raising the price level of electricity throughout the Northwest.

Senator CANTWELL. Yet you still have resistance to the temporary price cap as a concept?

Mr. KONOLIGE. Simply because I think it does not work. I mean, that temporary price cap, I think it is a practical impossibility to extend it to the West. Outside of California there is no organized marketplace. The issues of exactly who you would impose it upon, under what circumstances—could you take, for example, private contracts between a buyer and a seller and say, this buyer and seller cannot contract for a different price? I mean, that seems like an elaborate system you would have to put into place to try to enforce that.

So our feeling all along has been as a practical matter price caps do not work. I mean, that is the opposition, is that they do not really hold down prices.

Senator CANTWELL. So do you think, then, that in thinking out this from a regulatory perspective, that UTC's or others, or even the concept of, in the banking industry at least you have, if there is a run on a bank you have FDIC insurance. They are mandated to have some coverage, some plan as a backup, so what is the backup plan?

Mr. KONOLIGE. The backup plan here is, for example, Bonneville Power hopefully will not run out of water this summer. There will be enough electricity for everyone as long as, look, if we literally do not have enough water and do not have enough gas, then there would be blackouts for everybody.

Short of that, there will be a price at which the market clears, so the issue ultimately comes down to who pays that price, and if you set the price too low I think what is going to happen is you have a lot of generators who will simply go out of business, or at least temporarily go out of business, and they will say—so the perverse effect of price caps is, if you are short power, setting a low price cap represses the amount of power available. I think that is the practical issue with setting price caps.

Senator BINGAMAN. Senator Smith.

Senator SMITH. Gentlemen, I appreciate very much your testimony. I wonder if you can give me a one-word answer to the following question. From all that you have heard proposed and likely to be passed in Sacramento, is it apt to fix California's short-term problem? If each of you could take a shot at that.

Dr. MAKOVICH. No.

Dr. FOX-PENNER. I would say mostly.

Senator SMITH. And the financial man?

Mr. KONOLIGE. I take the Fifth.

[Laughter.]

Senator SMITH. From all you have heard proposed and likely to be passed in Sacramento, will what California is doing, will it solve their long-term problem? A one-word answer, if you can.

Dr. MAKOVICH. No.

Dr. FOX-PENNER. Senator, did you mean proposed and likely to be passed?

Senator SMITH. What Governor Davis is proposing, is it going to be sufficient to fix this problem?

Dr. FOX-PENNER. Well, I am not quite sure who exactly has proposed what at this point, Senator, but of the total—

Senator SMITH. You are not alone in that, by the way.

Dr. FOX-PENNER. Of the total legislative package, the most recent understanding I have of the total legislative package, I believe it is most of what is needed but not all.

Mr. KONOLIGE. I would agree with that. I think there is enough good ideas in there, and if they all got implemented and in the right combination I think we would be well on our way to fixing the long-term problem. Short term is harder.

Senator SMITH. But you have disputed with Senator Cantwell the idea of price caps, and that is one of the proposals that I understand is out there, at least short term.

Mr. KONOLIGE. That is what I said, if the right things go in and the wrong things stay out.

Dr. FOX-PENNER. May I comment on that, Senator?

Senator SMITH. Yes.

Dr. FOX-PENNER. I agree with Mr. Konolige's point that the danger with price caps, the overwhelming danger is that they will not work and will be counterproductive.

If we are in a true shortage situation this summer, where prices are rising to a level where it is clear that—and we kind of say pure rent, that the prices regardless of how high they rise are not bringing forth any more supply, price rises above that point we economists say do not have social or efficiency-enhancing values and at that point they become just a fairness and a hardship issue, and for this summer, if we could find that spot, that point where it no

longer brought forth any supply and was just a pure transfer of wealth, it would be fair and even efficient to cap prices at that level. I wish I had that answer for you.

Senator SMITH. Well, let me tell you what steams me. right now, Oregonians are being notified, and many Washingtonians with even higher rates, that their rates will be going up 20, 30, 40, and in one Washington utility 50 percent. Now, I do not think that is fair while California is capped at 10 percent. I have to tell you that. I think that stinks.

What really has me steamed this morning is a cartoon in an Oregon paper that says, our view from California. It is a diagram of my State with a couple of energy sockets in it, and I got a laugh at first, until I realized in real human terms there is a lot of people about to go out of work, and I do not like it.

In addition to that, for the last 8 years we have had an administration at war with energy, when it could not pass its Btu tax, to the point that serious people are trying to destroy hydroelectric power in the Pacific Northwest. Now, even with conservative estimates, our region is 3,000 megawatts short of power needed, and these supposedly four small dams they want to pull out on the Snake River produce enough power to run Seattle every day. I wonder if you could comment on the wisdom of destroying those four dams right now.

Dr. MAKOVICH. Well, as I mentioned, I think we have to do everything we can to close this gap that we have talked about and, as far as the existing solutions, I would just add the caution that long-term contracts have been mentioned as a solution here. The right type of long-term contract may solve this problem. I think the danger is, we enter into the wrong type of long-term contract.

Do not forget, half of the stranded cost in California came from long-term contracts that obligated utilities to buy volumes of energy at expected competitive power prices, the PURPA contracts.

Senator SMITH. You cannot do that when you are tearing out the power sources, can you?

Dr. MAKOVICH. Right.

Senator SMITH. My time is up, but I just wanted to say, Senator Boxer mentioned we should not lower environmental standards to produce power. I do not think we should lower environmental standards to produce more power. I think we ought to live with our environmental standards, but I did want to point out to her and the whole world that right now we have an environmental disaster, because we are paying hundreds of thousands of dollars every year to save salmon and right now they are getting flushed at a time when we are not going to have the ability to save them in the spring nor produce the power to keep the air conditioners on in California this summer.

I just think everyone needs to connect with reality here, that we do not produce power by hitting a light switch, and that has been the fiction that has been foisted upon the American people for the last 8 years, and it needs to change.

The CHAIRMAN. I thank the Senator from Oregon. We will move from Oregon to Louisiana.

**STATEMENT OF HON. MARY L. LANDRIEU, U.S. SENATOR
FROM LOUISIANA**

Senator LANDRIEU. Thank you, Mr. Chairman, and thank you for calling this hearing. I have a full statement to submit for the record, but I do want to follow up with my good colleague from Oregon to say he is absolutely correct. I would just disagree that maybe it has only been the focus of the last 8 years.

I think perhaps for a long time in this Nation we have not been realistic when it comes to what it takes to produce and consume energy. Our present capacity is not sufficient to meet the demands of this Nation, growing at its present rate. While we are grateful for the growth, this is a good time for a reality check.

No. 2, I would like to say to my colleagues from California that I do want to be helpful, and I appreciate and can understand the tremendous pressures that have been brought to bear on them representing this great State of 30-million-plus people. However, I am also very sensitive to my colleagues representing Western States that are directly negatively impacted, based on the testimony we have heard today, not only from the panelists but also from other Senators about high prices as well as the effect on jobs, businesses and consumers.

So, let me make just three brief points, and then I have two questions for the panel. One, ANWR may or may not be part of the solution, but this Senator is convinced that increased domestic production of natural gas, laying of pipelines and flow of transmission from the sources of power to the consumers of power are absolutely essential.

As a State that is a producer, we are happy to continue producing while maintaining high environmental standards. However, all of the production in the world that we can and are willing to do in Louisiana on and off of our shore is not going to mean a hill of beans unless we can get that power to places like California that need it.

Let me say that I think every State should assume some responsibilities for producing the sources of power that they can. We are blessed with available natural gas. We all have an obligation, every State, to produce our respective sources of energy in an environmentally sensitive manner. It is a mistake for this Nation to believe that you can, as the Senator said, just flip a light switch and create energy. We need to produce the nuclear energy, or hydro, or clean coal, or oil, or gas or renewable energy or some alternative. While some States resist the production of those power sources we now see it can be to the disadvantage of not only the producing State but to other States as well.

My second point is that while we do not want to lower environmental standards, we also do not want to add on top of Federal standards State standards that are perhaps overly bureaucratic or overly regulatory and then find ourselves in a situation where we cannot construct a powerplant in less than 10 years, and then the rest of us have to pick up the cost for the delay.

I am not talking about lowering environmental standards, but I think this raises the question of what rights do States have to implement even higher standards when the result is other States are

either effected in some way by a decision or have to pick up that tab themselves.

Third, whatever the solution is—and I had a question that the Senator from Oregon answered. I was going to ask you what are the three things that we can do immediately to address the situation in California. In all of your testimony, you indicated many things, but is there something we could do to help California and the Western region immediately? I hope the administration and the members of Congress realize that there is a huge price to pay for what has happened, which falls on the shoulders of the low income and the small businesses. This is the worst result we could find ourselves with and we need to all start focusing on this possibility.

Thank you, Mr. Chairman. I will wrap up by recognizing that there is going to be a monetary cost to any comprehensive resolution, but not allow those that have the least seats at the table in all of these discussions to pick up the price for mistakes we have made is not fair.

Finally, I will ask my question, and if you cannot answer it right now, if you could get it to me in writing I would appreciate it. In our State, where we are doing our job in terms of producing for ourselves and other States, we are faced with a question raging about the need for a water source to feed merchant powerplants.

Now, we have a lot of water in Louisiana. We have it coming every which way but loose. However, there is a tremendous amount of concern among farmers, business people and consumers about the need for groundwater to run these plants.

Could you just give a brief comment, in writing, about whether this should be a concern for this committee as we encourage the development of plants to generate sources of energy? Are there some water policies that need to be reviewed to make sure that we have adequate sources of water necessary to run these plants?

I thank you, Mr. Chairman, and look forward to continue working with you and the committee on this issue.

The CHAIRMAN. Thank you, Senator Landrieu, and you will respond in writing?

Dr. FOX-PENNER. Yes, sir.

The CHAIRMAN. Senator Nickles.

**STATEMENT OF HON. DON NICKLES, U.S. SENATOR
FROM OKLAHOMA**

Senator NICKLES. Mr. Chairman, thank you very much, and I want to thank our panelists and apologize maybe to the next group of panelists. You have assembled a great group of experts, I think, that can contribute a lot to our education on this issue, and so thank you all for your participation.

Mr. Chairman, I will just make a couple of comments. When we debated electric regulation over the last Congress I complimented you then because you had a lot of hearings and I, for one, wanted to do a national bill. I still want to do a national bill, and some people have indicated, well, wait a minute, the California result of deregulation proves that we cannot do one. I think they have proved that you can do one wrong and make a serious mistake.

Some people said, we do not need to do a bill because a lot of States are doing it on their own, and we have this chance to see

this progress work, and I think you have seen that. I think you are seeing a lot of States doing it and do it well and do it right, and you have ample supplies. You do not have the shortages.

In California, I think you do not have so much a power failure as you have a political failure. The politicians goofed, Democrats and Republicans. A lot of people wanted to superimpose their wisdom and replace the laws of supply and demand, and they have really messed up, and they are asking other States to bail them out, and maybe they want the Federal Government to bail them out. I hope and think that that will not be the case. I think it will be a serious mistake.

Most of the solutions of the panelists I have heard, I have heard people say, wait a minute, price caps are a failure. It is the politicians that put price caps on, and it is a serious failure. It has not allowed the marketplace to work.

I have heard the panelists say, we need more long-term contracts. California is the only State that has—and correct me if I am wrong—a significant percentage of the contracts or their buying power on the spot market. Most States have a very large percentage of their power purchased contracted on a long-term basis. California has a very significant percentage on a short-term basis, on spot market, much more fluctuating, much more volatile, and much more expensive at this particular time.

California has now embarked on a situation where their regulatory requirements, the NO_x standards, the emission standards have gone up substantially in this year, not a freeze to 2000, but an increase in 2001.

It will be interesting to hear from panelists, maybe not this panel but the next panel, how much power is idle because of the increasing emissions standards. Could, or should there be a moratoria, or should there be a waiver from those emission standards? Could we help alleviate the shortage?

You have a situation caused by politicians that because of the price caps that now you have bankrupt utilities, really as a direct result of the political action that was taken by politicians. People do not want to sell to the utilities because they are bankrupt, or they are heading to bankruptcy, or they are not too far from bankruptcy, or they are behind on their payments. Therefore, people do not want to enter into long-term contracts.

Again, that is a political failure caused by legislation, caused by politicians, and now I am afraid that part of the Governor's solution—and you all may have been more complimentary. From what I understand you are now talking about Governor Davis and the politicians and saying, well, we want the Government to make contracts, long-term contracts, and in exchange for that we will buy equity, we will get equity in the utilities.

In other words, drive them down to bankruptcy, but oh yes, we want to be stockholders, and then they will come out when it comes up. I think that is a serious mistake, and we have to be careful, when you have problems or crises you have to be careful you do not compound the mistakes, and I look at that as—again, I am all for States having a lot of flexibility, but I think that avenue, if that is what they still pursuing, and I have not seen what they have done in the last day or so, is a serious problem.

Also, you have politicians that have intervened and made it very difficult to license and build new plants. California has not built any new plants. The majority of California's plants are 30 years old, and so we have significant problems. The sale of credits for a lot of those old plants, it makes it difficult for them to operate. It makes it expensive to even bring in a new plant because they have to purchase credits to do so.

To compare State-by-State, other States have been building a lot of plants for the last 10 years or 12 years, so politicians again, I think maybe in some cases county level, State level have made it difficult to have additional power supplies, again somewhat intervening and intervening in the laws of supply and demand and in the process really creating a major problem.

So my point is, and this is really more comments than questions, I think you have not so much a power failure but a political failure, and it is important that we have steps taken in the right direction, and from what I am reading in the papers, I am afraid that a lot of what California is talking about, more long-term contracts and so on, will be helpful, some of what they are talking about doing, having the State be primary purchasers, or purchasing a significant amount, having the State government picking up the pieces for these utilities, I think is absurd, and I wanted to make that editorial comment.

Mr. Fox-Penner, did you want to comment?

Dr. FOX-PENNER. If I may just answer one point, Senator, and thank you for the time, my information is that there are no power-plants now in California failing to generate for environmental reasons. They are all on, with the possible exception of a 100-megawatt plant in Glendale, which ironically may not be generating because it did not participate in the pollution-trading scheme they have there.

Senator NICKLES. We will ask the next panel, because I do not think that is accurate, but we will find out, and I am not sure, I may be incorrect, but I think there are plants that are idle because of the increased NO_x standards, and we will find out. We will ask the panel.

Mr. Chairman, I apologize. This panel is—timewise, I am going to have to leave, but I am very interested in what the next panel has to say, and I will be reviewing those comments extensively, so thank you.

The CHAIRMAN. Thank you very much. It is appropriate now that I think we go to the next panel and combine panel 2 and panel 3, and I apologize, I would hope we could conclude after Senator Schumer has asked his questions that have not already been answered by you or proposed by a previous member, is that fair enough?

At the conclusion we will bring the entire two panels together, it would be my intention, and I have talked to Senator Bingaman that we allow them to make their statements, all of them, before we begin any questioning, and Senator Feinstein has a question.

Senator FEINSTEIN. Do you intend to take a break?

The CHAIRMAN. No, I do not intend to take a break. I am fearful we will drag this thing out beyond reasonableness, but I concur, somebody has got to call the shots.

Senator Schumer.

**STATEMENT OF HON. CHARLES E. SCHUMER, U.S. SENATOR
FROM NEW YORK**

Senator SCHUMER. Thank you, Mr. Chairman. I want to thank you for holding this hearing, and our witnesses, all of our witnesses, particularly those from New York, being here, and my questions actually relate not so much directly to the California crisis, but to the lessons it has for New York and the rest of the country. Fundamentally, anyone in America who thinks, well, you can isolate California and say they made a bunch of mistakes and it will not happen anywhere else I think is sadly mistaken. There is a fundamental problem.

California may be ahead of other parts of the country, but the fundamental problem is the same, and that is demand increases, supply stays flat, and there is not much you can do. When that happens you will have probably, higher prices, much higher prices, and shortages, and we ought to be thinking in terms of national policy.

I am a new member of the committee and probably know less about this issue than anybody else here, but from my 10,000-foot-up-view, as opposed to knowing all the trees, the bottom line is very simple, that here in Washington one side of the aisle says supply, increase supply, increase supply. The other side of the aisle says, decrease demand, decrease demand, decrease demand, and the twain never meet, and hence not much has happened.

I hope one of the things that the California crisis can do is importune all of us to sort of come together in the middle. There are merits on both sides. There are merits about increasing supply, there are merits about decreasing demand, and frankly we are not going to get anywhere unless somehow, led hopefully by this committee, we meet on both of those issues.

But for me the implications in California, which I think have relevance to my State of New York and to the whole country, are that demand increased rather dramatically and supply stayed rather flat.

I think the second problem which also has relevance, particularly to New York but other places as well, is that California sort of assumed it could regulate the wholesale market independent of other regional supply systems. They sort of felt—and they are pretty big, bigger than us, but they sort of felt they could just sort of wall off California and deal with the problem that way, and that is not true.

FERC really recognized for the States tried to work together to build regional transmission organizations which lead to seamless energy across borders and create incentives of building new transmission lines to adapt to that situation, and it did not happen.

Again, I think New York is similar. We have large parts of our State, particularly New York City and Long Island, which even if they build a powerplant up-State cannot very easily get that power down-State, so the fundamental questions I have for you are based on the two biggest lessons that we learned from California, and my question is, are those correct lessons to extrapolate not only to New

York but the whole country, and what other lessons can we learn from California as we apply it to the whole country?

I would open that up to any of the three panelists who wish to take a stab at it.

Dr. MAKOVICH. As you look at supply and demand fundamentals in regional power markets, New York, if we have normal summer weather and the economy holds up, New York is very likely to have an electricity crisis this summer, and it is down-State New York, it is New York City, Long Island.

As you mentioned, demand has grown, supply has not. There are bottlenecks in the transmission system that will not allow enough surplus capacity from New England and up-State New York to solve this problem, and yes, this summer in New York it looks very tight.

Dr. FOX-PENNER. Thank you, Senator. I would agree with that, but let us be careful to draw the correct lesson from this. The correct lesson is not that we do not know how to build powerplants in the eastern part of the United States, because we have as much capacity as New England demands today, and not all of it could even be absorbed, so the primary problem in New York, the poster child for this is transmission capacity, and that is a lesson that this Congress and this country must learn, and it is very, very challenging, Senator. It is challenging in urban areas most of all, but every urban area almost in the country is facing transmission constraints, so in that sense it is very definitely national.

Senator SCHUMER. Would you name some other areas that are in as tight—

Dr. FOX-PENNER. The city of San Francisco is in what is called a load pocket with not enough transmission. Boston is a load pocket. Chicago had transmission constraints a few summers ago. They had to bring in power on flatbed trucks because they could not get enough transmission, and there are other load pockets. I think Louisiana has one, Senator Landrieu has one, and I cannot even name all of them.

Senator SCHUMER. But there are lots of them around the country?

The CHAIRMAN. Senator Schumer, your time is up.

Senator SCHUMER. Thank you, Mr. Chairman. Could I just ask one quick other question? It will require a yes or no answer.

The CHAIRMAN. We will see.

Senator SCHUMER. I just heard the following statistic, which I found astounding, and can you just tell me if it is right or wrong? Someone told me that 3 or 4 years ago computers and other sort of new economy devices consumed about 7 percent of the energy in California and today they consume 18 percent of the energy in California, and in 10 or 15 years from now they will come close to consuming half of the electricity needs of California. Is that crazy, or is that fairly accurate, and you have to answer yes or no.

Dr. MAKOVICH. False.

Dr. FOX-PENNER. False.

Mr. KONOLIGE. False.

Senator SCHUMER. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Schumer. We still do not know what the percentage is.

Senator SCHUMER. I could ask that next question if you like.
[Laughter.]

The CHAIRMAN. We are not going to let you off that easy. I want to thank you, gentlemen, very much. You have contributed to the record and identified some of the inconsistencies and called them as you saw them, and we may have some questions for the record. It will remain open, and I wish you a good day and invite you, since others sat through your presentations, that you sit through theirs.

We are going to call panels 2 and 3, who are going to get a little chummy up here because we will probably have to bring in some hard seats. The first is Mr. Steve Frank, president and CEO of Southern California Edison, Rosemead, California, Mr. Steven Kline, vice president, Federal Governmental & Regulatory Relations, PG&E Corporation, Washington, D.C., Mr. Fred John, senior vice president, External Affairs, of Sempra Energy—that is San Diego Gas & Electric, San Diego, California—Mr. Keith Bailey, president and CEO, the Williams Companies, Oklahoma, Mr. Steve Kean, executive vice president and chief of staff, Enron, Houston, Texas, Mr. Joe Bob Perkins, president and chief operating officer, Reliant Wholesale Group, Houston, Texas, Mr. Curt Hildebrand, vice president, Business Development, Calpine Corporation, Pleasanton, California, Mr. Richard Ferreira, executive advisor, Sacramento Municipal Utility District, Sacramento, California, Mr. Tom Karier, council member, Northwest Power Planning Council, Spokane, Washington, Mr. John Gale, general manager, Pricing and Regulatory Services, Idaho Power Company, Boise, Idaho, Mr. Brett Wilcox, chief executive officer, Golden Northwest Aluminum Incorporated, The Dalles, Oregon, Mr. Mark Crisson, director of utilities, Tacoma Public Utilities, Tacoma, Washington, and Judi Johansen, executive vice president, Regulation and External Affairs, PacifiCorp, Portland, Oregon.

Have we been able to accommodate everybody somehow? All right. Lady and gentlemen, I would encourage you to submit your statements as written, summarize your statements, and highlight, if you will, the points you want to make, and please, you have sat through the other presentations with a great deal of patience, and hopefully you have either learned something or have something to point out relative to the points that were overlooked, or points that you take exception to, so I would encourage you not to be repetitive.

We all know the problem, so we do not have to address it any more. The question is, of course, how do we get out of the problem and what the workability is, and the impact in the future of what we are concerned with, and if anybody is really hungry or has something immediate, we would allow them to go first. Otherwise, we will go on the basis of the panel as I announce them.

I see nobody seeking relief, so—although Steve Frank of Southern California Edison and Steve Kline of PG&E might be seeking relief, we will start with them.

**STATEMENT OF STEPHEN E. FRANK, CHAIRMAN, PRESIDENT
& CEO, SOUTHERN CALIFORNIA EDISON, ROSEMEAD, CA**

Mr. FRANK. Thank you, Mr. Chairman. I will stay brief. In fact, a good deal of my best material has already been used this morning, and everybody has had a chance to read about us in the newspapers probably ad infinitum, but it is clear that our market is broken. It has been broken for sometime.

Last year, we paid \$28 billion for electricity, four times as much as was paid the year before. In December and January of last year, average prices were about \$30 a megawatt hour. This December and January, average prices were \$270 a megawatt hour.

Now, from my company's standpoint, what that has meant is that we have now paid about \$5 billion more for electricity than we have recovered from our customers. Our credit ratings have been reduced to junk. Our access to the credit markets are closed. We have suspended about \$800 million in payments in debt and power purchases. We have eliminated our dividend, the first time in 100 years that that has happened.

We have reduced costs sharply, reducing and impacting over 2,000 jobs, and put our ability to run our system out into the future into jeopardy, and I think the worst thing here for all Californians is that with all of the money that has been flowing out of the State over this period of time the people in our State do not have a clue as to whether they are going to have electricity tomorrow or they are not going to have it.

We are in the sixteenth or eighteenth day, depending on how you count it, of stage 3 emergencies this year. We have had rolling blackouts twice in San Francisco in this month of January. We have interrupted our interruptible customers 12 times already in the month of January, and clearly businesses cannot run being interrupted 12 times, and in fact businesses are very clearly reluctant to locate or expand anything in California, and Senator Burns, I believe, was making a pitch for some of our businesses already this morning. He would not be the first one to do that.

The darndest thing about it is, all of this is happening when usage is really running about 65 percent of peak. This is not the time when you would expect shortages. It is not the time when you would expect high prices. We in our company have done about all of the self-help things we think we can find, and there are not a lot more rabbits to pull out of these particular hats.

Now, we have gone through a lot of the reasons this morning, and they are pretty familiar, the over-reliance on the spot market, the lack of long-term contracting authority for sales generation, the one-price auction, which we have not talked about too much, but I think is a clear issue, the lack of new supply and, maybe most importantly, the fact that there has been absolutely no price signal to our customers.

The blackouts that have occurred in San Francisco have not been experienced by Southern California Edison customers, albeit we have come very, very close a couple of times, so in effect our customers have felt absolutely nothing, either from a cost standpoint or from a usage standpoint, throughout all of this crisis.

Now, there is not any lack of blame, and I think it is easy to find ways to point fingers at a lot of people, but I, for one, do not believe

that is a particularly worthy exercise any further. We need at this point strong and decisive leadership to deal with this issue. After too long a period of indecision in our State I think we are seeing leadership exercised in the legislature of the State today. There are discussions going on now that I hope will bear some fruit, but the situation I guess I would say is still very, very fluid.

I know it is tempting to just say, California, you guys screwed it up, so you guys fix it, but this clearly has regional and national implications, and I believe it requires action at the Federal level as well. Only the Federal Government has the authority over wholesale rates, and wholesale rates have to be moderated, at least in the short-term, as part of this fix.

Now, FERC, as has been pointed out many times this morning, has found wholesale rates to be unjust and unreasonable, but they have declined to remove market-based pricing authority in reaction to that finding. Now, I believe in markets, too, but where they have already been deemed to be not workably competitive, some action is required until they are workably competitive.

We believe that a temporary return to a cost-based approach, not caps necessarily, but a cost-based approach until the market is workably competitive is fair to both buyers and to sellers, and when we talk about a cost-based approach we are talking about reasonable rates of return as part of that cost.

We are not asking sellers, or suggesting that sellers should sell into the marketplace at a loss, and therefore we support S. 26 that Senator Feinstein introduced last week as an effective approach to bringing immediate relief from the excessive wholesale prices that we see in the marketplace.

I will save the rest of my remarks for questions, but I do appreciate your having this hearing so early in the session, Mr. Chairman, and I also appreciate very much the leadership of Senator Feinstein in introducing this bill last week. Thank you.

[The prepared statement of Mr. Frank follows:]

PREPARED STATEMENT OF STEPHEN E. FRANK, CHAIRMAN, PRESIDENT AND CEO,
SOUTHERN CALIFORNIA EDISON, ROSEMEAD, CA

Good morning. I am Stephen E. Frank, Chairman, President, and CEO of Southern California Edison. I appreciate the opportunity to testify before you today on the problems which threaten not only California's electric system, but the economic well-being of the state and potentially the entire country.

Eight months ago, my company was financially healthy. Our credit rating was A+ and our market capitalization was approximately \$6.5 billion, based on a share price of \$20. Today, our credit rating is deeply speculative grade or "junk." We have temporarily suspended payments for borrowed funds totaling \$480 million. In addition, we also deferred making power purchase payments totaling approximately \$360 million. Our stock price dropped to a low of \$6.25, but has risen in the recent week to approximately \$13. We have eliminated common dividend payments to our shareholders for the first time in our 100-year history. Not by coincidence, as I sit before you today, California is enduring the 16th day this month of Stage 3 Emergency alerts, the most serious level leading to rolling blackouts.

Southern California Edison has found itself in a precarious situation where we had to buy wholesale electricity at artificially high prices and resell at artificially low prices. As a result, we incurred \$4.5 billion in under-collections as of the end of 2000.

We initially financed this massive revenue shortfall by borrowing in unprecedented amounts. However, we have now exhausted our credit, and have limited cash reserves. As a result, we have suspended payment for power and some of our outstanding debts. We are implementing major cost reduction measures totaling nearly half a billion dollars annually, which will reduce our workforce by approximately

1,850 positions and limit critical investments in the electric system. If sustained, these reductions in staff and operating budget will certainly jeopardize the reliability of our system and our ability to adequately serve our customers. In addition, as I mentioned earlier, we have suspended dividend payments to our shareholders for the first time in our 100-year history.

These measures are not enough, however. With the widening gap between wholesale and retail prices, even the most drastic cutbacks we could possibly make would only generate enough cash to buy another few weeks' worth of wholesale electricity. Earlier this month, in response to seller concerns about the creditworthiness of the state's major utilities, the California Department of Water Resources began buying power in the wholesale markets in an effort to avoid massive blackouts.

During this past year, California has seen wholesale electricity prices skyrocket. In 2000, California paid nearly \$21 billion more for wholesale electricity than it paid the year before—a nearly four-fold increase. In 1999, the bill for areas served by the Independent System Operator (ISO) was \$7.4 billion; in 2000, it rose to \$28 billion.

As staggering as this increase is, it does not reflect the true cost of the electricity crisis to California. The high prices we have been paying have not ensured adequacy of supply. Power emergencies have become an everyday occurrence. There are several power plants under construction or in the permitting stages in California, but not nearly enough for the state to pull ahead of the current supply shortage—not to mention the substantially higher demand anticipated next summer. Neither is there sufficient power to sustain the state's economic growth. Without dramatic action to accelerate the provision of new supply to the market, the problem has the potential of continuing for years.

However, the problem is not entirely one of supply shortage. Ironically this winter, during a time of relatively low load, we experienced the well publicized rotating blackouts in Northern California on January 17 and 18. In addition, both we and PG&E have been forced to repeatedly curtail "interruptible" customers—those who agreed during a supply crisis to a limited number of interruptions in exchange for lower rates. These customers include schools, small businesses and larger manufacturers. While the California Public Utilities Commission (CPUC) last week decided to suspend the fines for this program and make it purely voluntary, this has increased the likelihood of rotating blackouts. The uncertainty about the state's power supply has led some businesses such as Intel to announce they will avoid further expansion in the state and consider relocating outside of California entirely, while other businesses, such as Miller Brewing Company, have announced layoffs and curtailed operations due to lost productivity.

The shortfall this winter has been caused both by problems in the California market structure, and worries about the creditworthiness of the California utilities. As a result, generators have decided to either not run their plants or send their supply elsewhere, creating artificial shortages and the constant threat of more rotating blackouts, even when there is no shortage of supply.

How did we get here? What has gone wrong? No participant in this crisis is free of blame: Everyone can now see that the market structure adopted in California's electricity restructuring is terribly flawed, even though the intent was to introduce competition and ultimately lower prices for consumers. The Federal Energy Regulatory Commission (FERC) over-relied on competitive markets to control consumer prices, even when it became obvious that California's market was not competitive and that prices consumers will inevitably pay were rocketing out of control. The CPUC only reluctantly gave the utilities limited authority to hedge and refused to declare an end to the retail rate freeze. All of us, including the utilities, were not as insightful as we should have been about the way the market would work and the way demand and supply would get out of balance in the California economy. Generators and other suppliers took advantage of a situation that obviously gave them significant economic gains.

Everyone involved, private companies and public agencies, undoubtedly believed they had good reasons for what they did. Predictably, there has been a lot of finger pointing and casting of blame. None of this fixes the problem, however; and the longer it goes on, the deeper the crisis becomes. What is needed now is strong and decisive leadership directed to solving the problem.

What needs to be done? At the state level, California officials need to take a combination of actions including raising rates, finding ways to finance both the past and future utility undercollections, and other actions to reestablish the creditworthiness of California's utilities. This is critical, because the reality is that the electric grid requires substantial capital investment for modernization and expansion. Financially crippled utilities will not be in a position to make the required investment that is critical to the health of this vital infrastructure industry. Furthermore, in-

creased rates similar to those implemented in neighboring states will send the appropriate price signals to consumers and encourage conservation.

California officials, working in cooperation with federal regulators, need to implement market structure reforms, including reduced reliance on the spot market by encouraging long-term contracts. New methods of compensating peaking units, through bilateral contracts with buyers or the ISO, are needed so these plants can recover their costs without inflating the overall cost of generation. The state also needs to consider ways to streamline the siting of new plants.

While there is much that California can and should do, there is also a clear need for immediate federal action. Under the Federal Power Act, only the federal government has authority over wholesale rates. Clearly something must be done about the current wholesale rates. The FERC found the rates in the California market to be unjust and unreasonable on November 1, 2000, and prices have only gone up since then. The law unequivocally requires that FERC set just and reasonable rates; the courts have made clear that FERC may depart from cost-based pricing and permit market-based pricing only where it finds that the markets will restrain prices to just and reasonable levels. The FERC cannot continue to rely on an overly doctrinaire approach to competitive markets when the markets are not sufficiently competitive to control prices and ensure fair rates.

We believe that the imposition of temporary cost-based price caps or load-differentiated price caps is fair to both consumers and sellers. Those sellers who truly have high costs will be allowed to recover those costs, including a reasonable return on their investment, but only when their high priced power is needed to keep the lights on. We recognize that price caps may be only a temporary solution. However, longer term solutions take time, and immediate relief is needed now. Therefore, we support Senator Feinstein's S. 26, introduced last week, as an effective approach to bringing immediate relief from the excessive wholesale rates throughout the West.

In conclusion, I would like to thank the Committee and you, Chairman Murkowski, for holding this hearing so early in the new Congress. I also would like to thank Senator Feinstein for the tremendous leadership she has demonstrated throughout this crisis and in introducing S. 26, an effective vehicle to address the problems in the California wholesale electricity market.

The CHAIRMAN. Thank you, Mr. Frank. Our next witness is Mr. Steve Kline, PG&E.

STATEMENT OF STEVEN L. KLINE, VICE PRESIDENT, FEDERAL GOVERNMENTAL & REGULATORY RELATIONS, PG&E CORPORATION

Mr. KLINE. Thank you, Chairman Murkowski, Senator Bingaman. This is truly an opportune time to be having a hearing on California and the Western issues related to electricity crises. I am going to stipulate to a lot of what Mr. Frank said about our current financial situations. Our situation in terms of financials is identical, with the exception, I think our exposure number is \$1 billion more, but at this phase in the game I would say we are all generally in the same situation.

I am also going to not belabor some of the points that were made earlier by Mr. Frank on the cause of this problem, but I would like to make a couple of comments that I think have not been fully developed earlier this morning.

I would like to just focus for a moment on the fact of higher gas prices across the Nation in terms of higher electricity prices across the Nation and in California. I asked our folks to do an analysis of, assuming deregulation or restructuring, whatever California's process is called, had not occurred, what would the cost impacts that would be running through traditional regulation with fuel cost adjustments that were routinely made in the context of rate-making through the eighties and nineties?

Our folks came up with an estimate that the power produced by PG&E's plants that are now divested would be about 23 percent

higher than the embedded cost component that exists in our rates today, so it is clear a large component of what is going on is gas price impacts that we are seeing in the marketplace.

I also want to stress that the problems here are not the result of the overall concept of opening markets, and this is clearly, as you have heard, not a deregulation problem. Basic economics tells us that under any regulatory system, under the conditions that have been described today, higher prices would prevail. That said, it is true that California's approach to restructuring, combined with short supplies, have had a huge effect in terms of producing these extraordinarily high prices.

I would just second the notion that frozen rates are causing us several problems, financial problem for some, but they are also causing a huge problem in terms of sending price signals to customers and sending them signals to make the necessary investments in energy efficiency and conservation, which further reduce demand.

Clearly, this problem cannot be solved until supply and demand are back in balance. In order to increase supply we clearly need to invest in clean and efficient new powerplants, together with natural gas pipelines and infrastructure, and I would really stress the impact of natural gas as a way to solve this problem, and we need clearly to construct new high voltage transmission power lines, and that is not easy politically, but it needs to be done.

What I would like to conclude with, there are a few things that we have identified that the Federal Government can clearly do as the State works around the clock to resolve this problem. We believe that the Federal Government needs to do everything it can to continue to encourage regional transmission organizations and open access to the transmission systems. It needs to:

Accelerate permitting of natural gas pipeline infrastructure. This is a big issue, and can have a big impact.

Encourage the efficient use of energy through research and processing standards. That process is underway.

Encourage continued development of renewables by maintaining the existing renewables production tax credit.

And finally, increase funding for low income energy assistance to assure that those least able to pay are not left out in terms of access to reliable energy.

Thank you.

[The prepared statement of Mr. Kline follows:]

PREPARED STATEMENT OF STEVEN L. KLINE, VICE PRESIDENT, FEDERAL
GOVERNMENTAL & REGULATORY RELATIONS, PG&E CORPORATION

INTRODUCTION

Good morning Chairman Murkowski, Senator Bingaman, and members of the Committee. I'm Steven Kline, Vice President for Federal Governmental & Regulatory Relations of PG&E Corporation. Thank you for the opportunity to testify before you today. This is truly an opportune moment to be having a hearing on California and the Western Region's energy crisis.

WHERE ARE WE?

As widely reported, California's electricity distribution companies, including Pacific Gas and Electric Company, teeter on the brink of bankruptcy, because we are unable to recover the extraordinarily high prices for the power we must purchase in the wholesale market, to fulfill our public utility obligation to serve.

HOW DID WE GET HERE?

California's problem is fundamentally one of supply and demand: statewide, between 1996 and 1999 electricity demand grew by 5,500 MW, while supply grew by only 672 MW. The effects of this extreme imbalance between supply and demand have been exacerbated by reduced hydropower supplies and rapid economic and population growth across the West.

In addition, higher natural gas prices across the nation are contributing to higher electricity prices. As a comparison, suppose we were to turn back the clock for a moment to pre-restructuring times. Under traditional regulation with fuel cost adjustments, power costs from Pacific Gas and Electric's now divested gas-fired plants would be 23 per cent higher than the frozen commodity cost included in today's rate, simply due to gas price increases alone.

The problems in California are not the result of the overall concept of opening electricity markets to competition. Basic economics tells us that under any regulatory system, wholesale power costs would be substantially higher under the conditions I have just described. That said, it is true that California's approach to electricity restructuring, combined with short power supplies, have undoubtedly led to the unexpected 500 to 1,000 percent wholesale power cost increases experienced over the last eight months and to the resulting financial crisis for the utilities.

California's restructuring approach required utilities to divest their power plants and to purchase all of the power needed to serve their customers on the volatile spot market. Further, until recently, the use of long-term bilateral contracts or other price hedges were also precluded. Designed to work in an environment of abundant power supplies, California's market structure has not served customers well under short supply conditions.

In addition, frozen retail customer prices have shielded consumers from the real costs of electricity, nearly eliminating price signals to make energy efficiency investments or to conserve, and thus reduce demand.

WHERE DO WE GO FROM HERE?

California's energy crisis cannot be resolved until supply and demand are back in balance. In order to increase supply, new clean and efficient power plants must be sited and built, together with natural gas transmission and distribution pipelines and high voltage power transmission lines. In order to reduce demand, energy efficiency investments need to be made and customers need to see accurate price signals. In the short-term, efforts to squeeze additional power from existing power plants and greatly expanded demand-side management need to be encouraged for better or worse, summer, which is California's peak season for energy demand, is only months away.

As we speak today, California's Governor and legislature are working round the clock to craft a satisfactory resolution that assures reliability and public safety, stabilizes retail rates to customers, addresses the longer-term infrastructure needs while protecting California's environment, and returns the State's utilities to financial health.

Both the Clinton and Bush Administrations have been very helpful: continuation of the Emergency Orders created a window for the State to act. We recognize that the Orders are not without cost, and we therefore appreciate even more the efforts that our neighboring states have made to assist California during this critical and unprecedented time.

Beyond the necessary State actions, the Federal government should do everything it can to:

- encourage Regional Transmission Organizations and truly open access transmission systems;
- accelerate permitting of natural gas pipeline infrastructure;
- encourage efficient use of electricity through research and efficiency standards;
- encourage continued development of renewable energy resources by maintaining the existing renewables production tax credit; and
- increase funding for low-income energy assistance to help assure that those least able to pay are not left without access to reliable energy.

Thank you for the opportunity to appear before you. I would be happy to answer any questions you might have.

The CHAIRMAN. Thank you.
Mr. Fred John.

STATEMENT OF FREDERICK E. JOHN, SENIOR VICE PRESIDENT, EXTERNAL AFFAIRS, SEMPRA ENERGY, SAN DIEGO, CA

Mr. JOHN. Mr. Chairman, Senator Bingaman, Senator Feinstein, thank you for the opportunity to speak this morning. SDG&E, which is a subsidiary of Sempra Energy, is in a somewhat different situation than PG&E and Edison, but it is not that dissimilar. We came out of our rate freeze in 1999, when we sold off our powerplants and eliminated our stranded assets, and then in June 2000, when rates increased dramatically in our service territory, the State legislature imposed a new rate freeze, but did give us the opportunity to recover those costs over time through a bill called AB 265.

The problem is, at this point the California commission has not yet taken any action on that legislation in order to manage the balancing account that is growing rather dramatically in our area. The same issue, you are capped at 6.5 cents per kilowatt hour, and you are paying wholesale prices approaching 22 to 25 cents per kilowatt hour, and no business on a sustained basis can charge customers far less than what it pays for the product.

To add to this, SDG&E is now subject to what we call the zip code effect when it attempts to borrow money to finance the cost of buying wholesale electricity. Our ability to obtain financing is being negatively affected by the poor financial health of both PG&E and Edison.

If rate relief is not granted soon, the financial community will start to doubt SDG&E's ability to amortize its under-collection, which could put us at the financial crossroad that the State's other investor-owned utilities face today. What we basically have is a promissory note from the State of California, and what we are trying to do is collect on that note without having to go to court to litigate it.

We support the positions that Steve Frank and Steve Kline have said on a variety of issues. Our view is there is a four-pronged approach to this issue. One is, you need long-term contracts, but as Mr. Makovich said on the prior panel, those contracts have to be the right kinds of contracts, and they have to be reasonably priced.

The problem right now is, whether you are a utility negotiating with the suppliers or the State of California negotiating with the suppliers, we have absolutely no leverage, because nobody in the Federal Government is willing to step up to the plate and say, if you do not come to the table with just and reasonable prices, we are going to either impose cost-based rates, or we are going to require refunds, or a combination of both.

So that is one part that needs to be done, and by the way, do not take this lightly. We are not a company that historically has liked any kind of price caps, but you reach a point where enough is enough.

Second is, the State of California has to be willing to bite the bullet and allow increased retail rates, otherwise the utilities are not going to be able to stay solvent.

Third, there has to be an expedited siting process in the State dealing with generation, with electric transmission, and with gas transmission, and that also involves, especially with respect to

transmission facilities, cooperation between the Federal agencies and the State agencies as you are going through the SEPA process or the NEPA process.

Finally, there has got to be a much more aggressive effort on the demand-side management, energy efficiency, something equivalent to a Marshall Plan, in order to capture those 2,000 to 5,000 megawatts that Senator Feinstein referred to earlier, if you are going to get any handle on the short-term problems facing the State.

With that, I will end my comments.

[The prepared statement of Mr. John follows:]

PREPARED STATEMENT OF FREDERICK E. JOHN, SENIOR VICE PRESIDENT, EXTERNAL AFFAIRS, SEMPRA ENERGY, SAN DIEGO, CA

Good morning. I am Fred John, Senior Vice President of External Affairs at Sempra Energy. Sempra Energy is a Fortune 500 energy services holding company whose subsidiaries provide electricity and natural gas services. Sempra Energy's two California regulated subsidiaries are San Diego Gas & Electric Co. (SDG&E) and Southern California Gas Company (SoCalGas). Together, these utilities serve a population of 21 million in southern California.

Mr. Chairman, I commend you for holding this hearing today to enable the Committee to hear first hand of the scope and enormity of the energy crisis in California. I also appreciate your insightful comments in the *Congressional Record* regarding this issue.

In short, California's energy crisis is the culmination of serious supply and demand imbalances and flaws in the market structure created by state legislation and regulation. These imbalances have contributed to the skyrocketing wholesale price of the electric commodity that Californians are being asked to pay by suppliers who presently have no incentive to negotiate to bring costs in line with those in the rest of the country. While the high electric rates are the immediate issue that must be addressed for us to fix the system, they are but one symptom of a system that is badly broken. Today in California we face a dysfunctional electric market that needs immediate repair by both state and federal regulators and legislators. A solution to the existing electric crisis involves four areas:

1. The need for long-term contracts for wholesale electricity at reasonable prices.
2. State approval of appropriate retail rate relief to help the state's investor-owned utilities manage their growing balancing account under-collections caused by the differential between the wholesale prices charged to the utilities and the retail rates that the two utilities are permitted to charge their customers.
3. An expedited siting process for new electric generation, electric transmission and gas transmission facilities.
4. An aggressive energy efficiency program that provides real incentives for customers who conserve energy and penalties for those who don't conserve energy.

These solutions must take place on an integrated basis. All of them are necessary if California is to overcome the present crisis.

Some in Washington have characterized the issue simply as a California problem, created by California, for California to solve. However, as recognized by Federal Reserve Chairman Alan Greenspan in testimony last week before the Senate Banking Committee, this is an issue of national importance and one that must be addressed by federal and state government officials working together. As Chairman Greenspan stated: "it is scarcely credible that a problem can exist in California which does not feed to the rest of the 49 states. The energy crisis in California threatens the economic well-being of the nation."

OVERVIEW OF DEREGULATION IN CALIFORNIA

In hindsight, it's clear that the market created by AB 1890, (the state legislation deregulating the electric industry) and the CPUC's orders implementing AB 1890 were flawed. They imposed a retail price cap but not a wholesale price cap, required that utilities bid for power exclusively through a state-created Power Exchange, federalized the state's transmission system, removed electricity providers from state oversight, and severely restricted the ability of the investor owned utilities to enter into long term contracts. These restrictions exacerbated the flaws in the fledgling market as problems with supply and demand imbalances in the western region surfaced over the past year.

This is not a purely California problem. While California's demand growth over the 1999-2000 period (when price spikes began) was relatively flat, demand growth throughout the interconnected grid of the western region has been strong. In fact, it has been estimated that nearly 85 percent of the growth in electricity demand over the past five years in the western region has occurred outside of California.

While it has been widely noted that no major power plants have been built in California over the past 10 years, that is generally true throughout the region. And the reason is simple. In 1992, Congress initiated the move toward deregulation with the Energy Policy Act. Until decisions were made regarding market structure and the ownership of generation, investment was frozen. Once California completed its legislative and regulatory shift to the new market, many proposals for power plant construction were submitted to the state. While the state's process for siting of plants is long and burdensome, the delay in proposed investment in powerplants over the prior decade should not be treated simply as a bureaucratic problem in one state. Rather, the problem is a symptom of the investment community's reaction to a significant change in regulation affecting the entire western region.

The now obvious flaws in AB 1890 and the regulatory orders implementing it did not surface until after July 1999, when SDG&E was the first utility in the state to pay off the debt on its stranded assets (as required by AB 1890 to enter the competitive market). Once SDG&E opened its market to competition, the utility passed through to its ratepayers the market cost of the electric commodity. Initially, retail prices were in alignment with wholesale costs. However, during the summer of 2000, electric wholesale commodity prices skyrocketed and SDG&E's ratepayers were subjected to the highest and most volatile prices in the nation—prices that were 500 percent higher than at the same time in 1999.

The extraordinarily high prices being paid by San Diego customers created a politically untenable situation. In an effort to "fix" the problem, for SDG&E the Legislature's cure became worse than the disease. In short, AB 265 was passed and capped at 6.5 cents per kwh the amount that ratepayers would be charged for the electric commodity. Yet, SDG&E continued to pay upwards of 22 cents per kwh to its suppliers. SDG&E was required by AB 265 to place the difference, or under-collection, in a balancing account to be repaid in 2002 or 2003. How the under-collection would be repaid was not outlined in the bill. The immediate problem facing SDG&E today is that the balancing account, which exceeds \$450 million (far beyond the original projections of the AB 265 proponents), and there is no end in sight. While AB 265 guarantees the utility recovery of its prudently incurred costs, the growing balancing account under-collection has become a balloon payment that must be paid in the future by our customers.

SDG&E has sought rate relief from the CPUC in order to help manage the balancing account under-collections. This relief is similar to that proposed by the other two investor owned utilities—PG&E and Southern California Edison—whose balancing account under-collections have reached levels proportionately equivalent to SDG&E based on each utility's sales of electricity.

At the present time SDG&E is subject to the "zip code" effect when it attempts to borrow money to finance the cost of buying wholesale electricity. SDG&E's ability to obtain financing is being affected negatively by the poor financial health of PG&E and SoCalEdison.

Whatever views one holds regarding the current crisis and who may be responsible for it, the reality is that neither PG&E, nor Edison nor SDG&E can continue indefinitely to provide electricity to consumers at a loss. What business could operate in that manner? We have argued before the CPUC that if rate relief is not guaranteed soon, the financial community will doubt SDG&E's ability to amortize the under-collection. We are trying to work with decisionmakers at every level of government to avoid a point in the not too distant future when SDG&E will face the financial crossroads the state's other utilities are facing today.

Let me be clear—we have reluctantly come to the federal government to participate in solving this crisis at the wholesale level. In fact, we continue to seek commercial solutions with the parties directly involved in the issue, including the generators and marketers. While some issues can and must be solved by California, the issue is clearly larger than the state's ability to solve on its own.

CALIFORNIA ACTIONS

The Legislature has continued its efforts to solve the energy crisis during a special session devoted entirely to the issue. The State has appropriated \$400 million (which has almost been exhausted) to the Department of Water Resources (DWR) for short term purchases of power. The Legislature is also considering how the DWR can act as the procurement agent for the utilities' customers for long term power.

The DWR recently conducted an on-line auction to buy power to see if lower priced energy was available. However, it is not clear how much long term power will be available to DWR as a result of the auction or the actual price of the power or the duration of the contracts. While these efforts are an initial attempt to solve the problem, it is not certain that the State of California will be able to execute long term contracts with suppliers that provide sufficient amounts of electricity at reasonable prices to assure Californians affordable and reliable power until new generation and transmission capacity is built in the state.

That is why Sempra Energy is proposing the following actions that must be taken to solve California's energy crisis.

PROPOSED ACTIONS

1. Long Term Contracts

As part of implementing AB 1890, the CPUC refused to allow utilities to enter into long term contracts as a hedge against price spikes. The Legislature directed electricity to be bought and sold on the spot market. We now know that the bidding process into the state Power Exchange drove up prices for last minute energy demands, and helped to create the high rates we are experiencing today. Long term contracts represent a critical tool in helping to control price volatility and ensure reliability.

The problem that exists under the current structure is that there is little incentive for suppliers to negotiate reasonable prices to stabilize the system. The state has taken actions to ensure the financial ability to continue to purchase needed power as two of the investor owned utilities have been driven to the point where they are unable to purchase power. If the pricing problem is not addressed, this situation will quickly exceed even the state's ability to provide financing. As Standard and Poor's recently stated, "the failure to find a long term cure to this energy crisis could put the state's long term credit at risk."

We need a sanctioned "time-out" so that market participants can work together to reach agreement on a reasonable price for the electric commodity. The solution is to provide an incentive structure for the supply side of the market to negotiate in good faith with the demand side to get the state through the current crisis. For that we need federal action.

The suppliers must be required to enter into long term contracts for a reasonably priced electric commodity, or face federal sanctions: either a federally-imposed fixed hard cap on the wholesale price of electricity or cost based rates. Simply put, neither the state of California nor its investor owned utilities have the ability to control the actions of the suppliers or the leverage to bring them to the negotiating table.

Sempra Energy has reluctantly supported the imposition of fixed hard price caps on the wholesale price because it has become apparent, newspaper reports to the contrary, that there is no incentive for the suppliers to negotiate with either the utilities or the state on long term contracts. While long term contracts won't allow the generators to continue to reap the profits of the past seven months, these contracts can provide profits that are higher than the projected future market value for the electric commodity. Although imperfect, long term contracts provide all market participants with something while the dysfunctional market is corrected. If the Federal Energy Regulatory Commission (FERC) continues its unwillingness to impose hard caps on the wholesale price, we believe Congress must intervene and direct FERC or the Secretary of Energy to take such action immediately.

A more stringent measure to reduce rates would impose cost based rates on the generators. Through this process, the generators would be subject to FERC proceedings that would establish "just and reasonable" rates for serving California. The problem with this solution is that while it might ultimately establish reasonable rates, it would be a slow process and would prevent more immediate action from occurring.

II. Retail Rate Relief

California's investor owned utilities must be permitted to pass through the costs of procuring electricity for their customers.

As described above, the utilities have sought rate relief from the CPUC. However, to date the CPUC has either granted a very limited rate increase in the case of PG&E and SoCalEdison, or no rate increase in the case of SDG&E.

The lack of trust by the financial community of California's willingness to do what is necessary to maintain the financial integrity of the state's investor owned utilities grows each day that neither the CPUC nor the Legislature nor the Governor are willing to step to the plate and take the actions necessary to manage the huge and

growing balancing account under-collections caused by the mismatch between wholesale prices and retail rates.

PG&E and Edison are at the financial precipice and SDG&E is trying to make sure that it doesn't get there.

III. Expedited Siting Procedures

Immediate action must be taken to expedite the siting of electric generation, electric transmission and gas transmission facilities in California. Although virtually no new power plants have been built in the past ten years, steps are underway to immediately increase generation. Since April 1999, six power plants (representing 4,700 MW of new generation) have been approved; five of the plants are under construction and the sixth is scheduled to begin construction by April 2001. Twenty more plant applications are being reviewed by the state Energy Commission. These developments and the creation of the Governor's Green Team (charged with accelerating the siting and permitting of generation and coordinating local, state and federal government agency review and action) represent important steps to increasing much needed supply. However, even with these changes, it takes the State of California much longer to site new generating plants than many other states. Also, when it comes to new electric or gas transmission facilities there must be greater coordination between state and federal agencies as they process permits to comply with the California Environmental Quality Act and the National Environmental Protection Act. In addition federal, state and local air quality requirements pose challenges to the siting process. Finally, often local opposition to a generating plant or transmission line can either block or substantially slow down approval of a project. State and federal regulators must work together to develop creative solutions to increase electric supply and the capacity to transport this supply.

IV. Conservation

Successful management of the demand side of the market must include conservation efforts. Historically, utilities have played a critical role in helping customers to reduce usage through the use of fluorescent light bulbs, new appliances, weather-stripping and other incentive programs. However, recent efforts to diminish the role of the utilities in conservation efforts has resulted in a decrease in actual conservation. While it makes sense to devise new and better ways to encourage conservation, the fact is that energy is going to cost more, at least in the short term. Utilities can and should play an integral role in managing conservation programs.

In California, the state government has agreed to reduce energy use during Stage 2 alerts. The federal government is taking similar action. We believe that the state and federal government should continue to set an example for load reduction efforts and should work with the business community to develop voluntary demand reduction programs. In the Energy Policy Act of 1992, Congress created mechanisms to enable the federal government (the nation's largest energy consumer) to tap private capital to upgrade outmoded facilities and reap energy and cost savings. However, federal facilities have been slow to take advantage of this law and should be held accountable by Congress for inaction.

Also an increase in the retail price of electricity will provide appropriate incentives to reduce energy consumption. This is especially true if rate designs are developed to charge more for increased usage of electricity and if customers, especially the larger customers, had energy meters that allowed them to see on a real time basis the impact of higher usage on the price they will pay for electricity.

CONCLUSION

The energy crisis in California is real. The Governor and state legislators are working around the clock to devise a solution. However, until more plants are built, the supply and demand imbalance will continue. Until the market is fixed and the utilities are financially stable, the skyrocketing energy prices will continue to wreak financial havoc on California and, in time, the nation.

Federal intervention is necessary to give the suppliers an incentive to negotiate reasonably priced long-term contracts. To develop a truly workable market, the suppliers must be part of the solution. The utilities cannot continue to negotiate among themselves and with state policy makers. For the system to work, a fair and workable market must be created.

We need an immediate mid-course correction to maintain the solvency of the state's utilities, protect customers, and create a market that truly is competitive. The federal government is in the unique position to bring together these seemingly disparate interests to forge a consensus on how to best move forward. I think we can all agree that an electric market in California that works well into the future is in all of our interests. Thank you. I am pleased to answer your questions.

Senator BINGAMAN. Thank you very much. Why don't we just keep going down the line.

Steve Kean.

**STATEMENT OF STEVEN J. KEAN, EXECUTIVE VICE
PRESIDENT & CHIEF OF STAFF, ENRON, HOUSTON, TX**

Mr. KEAN. Thank you. I appreciate the opportunity to speak to you today about California's problem and the potential solutions. I think it is interesting to note a lot of this ground has already been covered. You keep hearing the same four things, we need to increase supply, we need to get demand to respond, we need to have more long-term contracting and less reliance on the spot market, and we need to make sure that the State's institutions are financially sound.

I am just going to hit on a couple of subtleties to those that I do not think have been covered yet. First, on the supply side, California has to expedite its siting process. It takes 5 to 7 years to build new powerplants in California. It takes us 10 months in other States. Now, the process is insane. An outside observer cannot look at this and reach the conclusion that this is a sane process. It may have been developed for good reasons, it may be administered by people acting in good faith, but the results that it produces are insane. It takes too long, and that is a California problem, and it needs to be addressed by California.

On the demand side, California has to enable demand to respond when supplies are tight, and that means the best way to do that is real competition and real choice. When buyers and sellers get together in a marketplace they will look for ways not only to reduce the cost of supply but also to reduce demand, because what matters to those customers is the overall bill. If you allow buyers and sellers to meet you can work on that problem. Today in California, 99 percent of the customers are still served under utility service. That is not competition. That is not deregulation. That has to change.

On the long-term contracting, one more thing on demand, and this I think goes to your question, Senator, you are right, we cannot get additional powerplants online by this summer, but one thing that could be done is, we could have whoever the buyer of power is, whether it is the utility or another State institution, be willing to pay as much for a demand reduction as for a supply increase.

In other words, if you are willing to pay \$150 for a megawatt, if you also offered \$150 for every megawatt of reduced consumption, you could start to work down the demand side. That creeps the price down, and you could get that done in the time that we have between now and this summer.

Long-term contracting, I think California is putting itself on the right track. It excessively relied on spot markets. It is beginning to focus on long-term contracting, and it is the right thing to do. There is an important sequencing issue here, though. We need to have credit-worthy entities in the State. Really, all solutions depend on that. You have to have financially solvent entities. Nothing is gained by allowing utilities to go bankrupt.

Secondly, we need to have real progress on the siting front. There has to be credible steps taken so that the market believes

that in fact additional generation is going to be coming online. You can see real progress. You can see real expedition in the way permits are processed. That will push forward prices down so long-term contracting, as you do it in later periods, will produce even better pricing, so there is an important sequencing issue there that I do not think has been touched on yet.

Just as importantly, there are a number of things that do not work. Price caps do not work. They simply—they have been tried in California. They do not work. Hard ones, soft ones, they simply have not worked. What happens with price caps is, the market ends up being bifurcated, because unless you are willing to say, I am going to turn lights off, you still have to go out into the market to buy the supply you need, and that is what has happened.

You have had the institutions of the State forced into the market at the last minute to buy the supplies you need, so the price caps have not worked, and extending them around the West would simply extend that problem, or export that problem to the rest of the West.

It has also resulted in the cancellation of some peaking power facilities in California which could have come online as early as this summer but were unable to because of the way price caps were set. The caps have not worked. They have not worked really in any context, and if they did work, I would tell you so, and I would say, let us go do it right away, but it simply will not work, and it will just extend the problem to the rest of the region.

A second solution that has been discussed that also will not work is State control of the power business. There is no reason to believe, and there is every reason to doubt, that Governments would do a better job than private firms in rapidly constructing and efficiently operating new facilities. State takeover of the power system is simply a bad idea.

My final point is, and particularly for this committee, the problems we are now seeing in California are not limited to California. Can California happen again? The answer is, yes, it can. It can happen in regulated States. It can happen in States which have restructured their power business.

What we need to do to prevent local emergencies from proliferating and becoming national disasters is build new generation and interconnect it. Get the interstate transmission system open and expanded to enable power to move from where it is to where it is needed, and give customers the freedom to choose. We cannot stand still. We cannot go backwards. We have to go forward.

Thank you.

[The prepared statement of Mr. Kean follows:]

PREPARED STATEMENT OF STEVEN J. KEAN, EXECUTIVE VICE PRESIDENT & CHIEF OF STAFF, ENRON, HOUSTON, TX

I. ENRON

Enron develops and operates networks around the world, primarily in energy and communications. We combine physical assets and contract access to the physical assets of others to make markets in, among other things, energy commodities, pulp and paper, steel and other metals, and broadband capacity. Our primary products are contracts which protect end users and producers from price volatility.

Enron is the largest buyer and seller of electric power in North America and participates in power markets around the world. As a market maker in power markets, we post prices at which we will buy and prices at which we will sell.

Enron's role as a market maker gives us a uniquely objective perspective on the problems in California.

With the exception of a few megawatts of wind facilities, Enron is not a generator in the state of California.

We sell protection from price volatility to both producers and end users. Consequently our interest in California's power market (and the rest of the markets we operate in) is to ensure that the market works effectively. That's what enables us to do business.

We post both purchase and sales prices. To the extent a market participant thinks our price is too high, they can sell to us.

Contrary to what you may hear or read, our success is linked to efficient markets, not higher prices in California, or anywhere else for that matter. What we are interested in is competitive and well functioning markets. Our financial success is not built on California's back. Our business grew dramatically around the world and across commodities in part because we migrated our market making activity to an online platform and because there is increased demand for risk management in many markets. Our volumes have grown and so have our earnings. We do not have uncommitted generation to profit from in California. But, for the first time, many market participants have begun to see the benefits of hedging against their commodity price risk. Many people purchased our products—both producers and customers.

These distinctions are important ones because they uniquely position us to identify the facts and the solutions objectively.

II. CALIFORNIA

A. *The problem.* California's current crisis has very straightforward causes:

- Economic growth spurred growth in the demand for electricity.
- New supply additions did not keep pace with this growth in demand.
- The state placed excessive reliance on a state-created spot market, which meant that utility buyers were exposed to price fluctuations across their entire portfolio.
- The state did not deregulate; that is, the state did not enable new entry into the supply (generation) business and did not in fact give customers choices.

The combination of these factors squeezed utilities between a volatile spot market and regulated customer rates, leading at first to rapid recoveries for utilities (when wholesale prices were low) and later to gigantic deficits and near bankruptcy (when wholesale prices moved up).

B. *The Solutions*

Just as the problems in California are straight forward, so are the solutions.

Supply

California must allow supply to catch up with demand. It generally takes 5-7 years to build new generation facilities in California. Enron and other companies have done it as quickly as 10 months in other states. California's process must be streamlined. California needs more power now. It must become a state priority to rapidly site and interconnect new generation. Another way of getting at this same problem is approving and siting new and expanded transmission facilities.

Demand

California must enable demand to respond when supplies are tight. In a true competitive market, buyers and seller are free to set mutually beneficial terms. In California's regulated retail environment less than 1% of customers are served by competing suppliers (the rest are still regulated utility customers). A market place where buyers and sellers meet would change the demand picture in the following ways:

—real time price signals would encourage conservation or shifting of demand to off peak times.

—suppliers would offer products to encourage conservation (energy efficient equipment for example). Demand reductions at key times drive market prices down for everyone. To get a demand response, however, customers must see price signals from the marketplace. In the long run, prices must be allowed to reflect the market. In the near term, such prices would have to be introduced gradually and combined with "purchased demand reductions." Paying for demand reductions makes sense.

If utilities, the ISO, or the state, are willing to pay \$500 for a megawatt, they ought to be willing to pay the same for a "negawatt." New capacity cannot be brought on in time for this summer's peaks. But, demand reductions could be purchased with a minimum of disruption to businesses, workers and the economy.

Long term contracting: California has recognized the importance of reducing reliance on the spot market and has started an auction process designed to shift more of the state's demand to long term contracts. This is sensible. Forward power prices are "backwardated," meaning that power prices are lower for future deliveries than they are for current deliveries. This means that longer term contracts will produce average prices lower than today's spot price levels, immediately reducing utilities' costs. However, these markets are shallow and skittish today. Price caps and active government intervention in California's power markets combined with financial uncertainty about the utilities' ability to pay has built large risk premiums into bids in those markets. If California entered into forward contracts after an active program to site new transmission and generation, forward prices would be lower and more bidders would bid in greater supplies. The sequence of the reforms needed in California is therefore critically important: the institutions of the state must be financially stabilized and clear, credible steps must be taken to give the market confidence that new supplies will be brought on line. Forward contracting in that environment will produce better results.

Financial stability: The creditworthiness of the state's institutions must be reestablished. Without credit worthy buyers of power, it will be difficult to attract new generation and long term supply commitments. The sobering fact is this: unless the state is willing to cut off significant load in the state, it has only two "choices"—it can buy the power the state needs in the short term, or it can let the utilities become insolvent and then buy the power the state needs. Nothing is gained by letting the utilities in the state become insolvent. The state appears to be on the right track with recently introduced legislation designed to ensure collection of past amounts and provide support for future purchases.

The introduction of real price signals to bring supply and demand into balance can and should be tempered by phasing in rate increases and market pricing and by insuring that low income customers are protected through continuing subsidies.

Just as importantly, there are a number of proposed "solutions" which will not help the situation in California or the rest of the West.

Price caps: price caps are bad for consumers, the economy and the environment. Price caps in the West have not worked and will not work. Price caps have led to the cancellation of peaking power projects which could have brought additional supply to California in the near term. [Attachment 1]* Price caps have succeeded only in disrupting and bifurcating the market for power, sending the states' institutions into the real time market to buy the power needed beyond the amounts purchased at or below the caps. Price caps merely export California's problems to neighboring states, discourage investors from developing needed supply resources, disrupt the market, and force a last minute scramble for power which endangers reliability.

State control of the power business: There is no reason to believe (and every reason to doubt) that governments will do a better job than private firms in rapidly constructing new facilities and operating those facilities efficiently. Competition in the generation sector has produced faster construction, more efficient facilities and has placed the risk of those facilities on investors not taxpayers or consumers. Government resources would be best focused on streamlining siting and interconnection rather than building and operating facilities with taxpayer funds.

Repeal Choice: Consumers are never better off with fewer choices. The only consumers that were protected in San Diego were those who chose alternative suppliers. It would be a mistake to repeal choice.

III. IMPLICATIONS FOR THE WEST AND THE REST OF THE U.S.: THE NEED FOR FEDERAL INVOLVEMENT

California's problems have already spilled over into neighboring states. California is a significant importer of power. As demand has grown so has its need for imported power, particularly from the Northwest. [Attachments 2 and 3] In past years, abnormally high hydroelectric capacity has masked some of the underlying supply/demand imbalance. [Attachments 4 and 5] Normal or even lower than normal hydro conditions mean that California's demand is taxing Northwest resources.

Moreover, California is just the latest of several disruptions in U.S. power markets and, unless we act quickly, it will not be the last. Reliability problems and price spikes have occurred with increasing frequency across the country. Some of

*The attachments have been retained in committee files.

the underlying causes are the same (e.g. higher demand spurred by economic expansion throughout the country).

To prevent reliability and pricing of power from becoming a problem throughout the nation, policymakers must act now. Power plants are not built in a day.

The solutions which will prevent local emergencies from becoming a national disaster are straightforward:

- New generation must be built and interconnected.
- The interstate transmission system must be opened to enable power to move from where it is to where it is needed, reducing the need for new supplies.
- Customers must be free to choose. Choices mean not only lower prices but greater innovation in products and services which can reduce demand at critical times.

Policymakers need to remove the barriers which inhibit these solutions. Federal lawmakers should enact legislation to enable all Americans to have better access to reliable, affordable supplies of power, which can best be achieved by providing them with access to the nation's interstate grid. In addition, the Federal Energy Regulatory Commission (FERC) should act. It should fully unbundle transmission service and provide for nondiscriminatory access to that service. It should ensure open access transmission through the "seams" (the administrative borders separating parts of the grid). It should also expedite the interconnection of new generation with clear rules and deadlines to prevent foot dragging by utilities who don't want to connect with competitors' generation. FERC should also require the nation's transmission owning utilities to join Regional Transmission Organizations (RTO) which will ensure that this access and interconnection continue to occur on a nondiscriminatory basis.

The answer to the question: Can California happen again? is "yes it can," though perhaps not in precisely the same way. What began as an effort to increase competition, customer choice and innovation ended as a heavily compromised and half-baked new regulatory regime. (This has happened in other states and jurisdictions as well.) California did not deregulate its power market. The FERC has not deregulated wholesale markets. Instead, policy makers have chosen (or are forced by political realities) to negotiate with incumbent monopolies over the terms of restructuring. The result is the worst of both worlds.

What is required is a rededication to introducing real competition into power markets. Access to transmission and customer choice should be a top priority. It must be swift and complete. The nation cannot afford to stand still on this issue. Electricity is too important. The needs of customers—particularly in the high tech sector—have outpaced the existing regulated monopoly model. Regulation in the old style does not work and California demonstrates that heavily compromised restructuring does not work. What is needed now, more than ever, is an unwavering commitment to an open and competitive power market.

The CHAIRMAN. Thank you very much, Mr. Kean.
Mr. Joe Bob Perkins.

**STATEMENT OF JOE BOB PERKINS, PRESIDENT AND CHIEF
OPERATING OFFICER, RELIANT ENERGY WHOLESALE
GROUP, HOUSTON, TX**

Mr. PERKINS. Mr. Chairman, Senator, thank you very much. The panel and the previous panel have described much of the supply and demand situation. I will try to just provide additive comments while echoing that my analyses and the analyses of my firm is very similar to theirs.

The CHAIRMAN. You might comment on the supposition by some that there has been unfair pricing within the wholesale market and that there should not be, if you want to take that on in your presentation.

Mr. PERKINS. I will put that in my comments. Am I starting my 5 minutes now?

The CHAIRMAN. You are starting now. Go ahead.

Mr. PERKINS. Reliant Energy entered California in 1998, when we purchased five plants, 3,800 megawatts. Now, that is one of the

larger positions. The largest positions are in the hands of the utilities. Some 55 percent of the market of generation is still held by the utilities. That position is 9 percent of the California market and 3 percent of the Western interconnect market.

Our role since that time has been an active market participant, and I am proud of that role, working closely with the ISO, the PX, and FERC to try to improve a market situation that we inherited. We went into AB 1890 with purchasing after it had already been written. We thought it was a reasonable model, but even in 1998 we were working on long-term contracts and offering long-term contracts to the market.

I am also proud of our record, particularly our record of performance in plant operations over the last couple of years. In the year 2000 we produced 10,900 million megawatt hours, and in the summer of 2000 we ran at rates that were 200 percent that of the average of the previous 5 years, 35-year-old plants that we had figured out how to run twice as much as they had run over the last 5 years, and that helped keep the lights on in California. The in-State generation was leaned on very heavily in the summer of 2000, and we are proud of our performance.

The supply-demand picture has been described very well here, and I am just going to add a few supply clarifications, and I heard some questions asked. First of all, the statements of intent of California legislators and the administration in California were right on target, and they need to achieve those goals. However, if we start working on generation in California today, a new development project, it will be 2004 until we have it on the ground for any project of significant size.

Secondly, the president of the GE Turbine Division was recently quoted as saying, some 868 turbines are ordered to bring supply to this wholesale market, and 21 of them are pointed to California. I think that is a very dramatic statement about the industry's evaluation of regulatory and political risk associated with California, even though supply and demand are very tight.

There was a question about whether we were using up generation for next summer. As an industry, we are using up generation for next summer. Hydro will not be replaced by then because it is so very low, and the emissions caps on emissions-limited facilities are being limited, or being run up right now, so that they may not be available in the summer.

An example would be our Coolwater plant, which has an overall capacity utilization restriction of some 56 percent, and it is running flat out now. If we keep running it between now and summer, there will not be anything left by the time we get to the middle of the summer. I know other producers have a similar situation.

One solution to that is to run it right up until we are out and then get emergency relief, but we should be thoughtful about that and we should recognize that as the rules currently state, both hydro and emissions credits are being used.

Now, this is a big problem. The FERC December order established a framework for market reform and for solutions. It was a well-thought-out framework. Do we agree with every single element of it? No, but it was a well-thought-out framework. However,

the State of California has been slow to act against the recommendations that FERC could act on.

Worse, we still have, and it has been referred to often, the retail subsidy issue in California. I am not going to elaborate on that, but I would like those members of the committee and the people looking at my testimony to turn to the second-to-last page in the testimony. It will be easy to find, Exhibit A-4, which very sort of graphically states increases over 2000 rates for a number of utilities across the country, including many of the Western States represented on this committee. It shows utilities in California with a 9-percent rate increase.

I would remind people that that is a 9-percent rate increase on top of a 10-percent rate decrease that was put in place in 1998, and so we are talking about a flat rate since 1996, when gas prices have increased incredibly, and most of the generation out here on the margin is fired by natural gas.

Secondly, there is a range of 15 to 50 percent rate increases in those other States, many of them Western States, and you could characterize that as helping to pay for the rate subsidy in California.

Now, since I have got you looking at page A-4, I am going to get you to turn to page A-5 as well, please, because there is some inaccurate perceptions about market price behaviors, and I hope this is responsive to your direction, Mr. Chairman. In fact, our testimony, written testimony includes a detailed explanation of June 29 supply and demand, comparing 2000 and 1999. That particular period of time, Mr. Chairman, is used by the California PUC, used by the oversight board to say, look, supply and demand is about the same, but something has changed in pricing, \$50 to \$500.

This morning, I saw a copy of a fax that I know was sent to many of your offices. That fax had a handwritten comment on it, probably by one of the staffers, that said, how can this be when supply and demand have been about the same, but it is not a complete analysis. It is missing part of the facts, and those facts are on page 5. Supply and demand in the California ISO was about the same. Demand was about the same in the California ISO, but imports from other States was not showing up in 2000 to the same extent it did in 1999.

What you can see on this chart is that 4 p.m., peak time on that date, and the situation occurred for most of the summer, and it is all documented in public by the ISO, 4,500 megawatts short of imported net supply, on top of a peak demand at the time of about 41,500. Supply and demand was not the same.

If you add those two together, it was essentially a demand on California generation of some 46,500 megawatts, or the equivalent of the highest peak demand they have seen. What you had is demand competing for supply, and running the price up during that period of time.

Those are my additive comments, Mr. Chairman. Thank you.

[The prepared statement of Mr. Perkins follows:]

PREPARED STATEMENT OF JOE BOB PERKINS, PRESIDENT AND CHIEF OPERATING OFFICER, RELIANT ENERGY WHOLESALE GROUP, HOUSTON, TX

Summary

I. Reliant Energy is the owner of approximately 3,800 megawatts (MW) of California generation and is an active participant in the Western power markets. We also own an additional 5,600 MW of generation across the country (including approximately 4,200 MW in the Mid-Atlantic (PJM) region), have 6,500 MW of generation in construction or advanced development, control 2,000 MW through multi-year contracts, and participate in most domestic gas and power markets. Additionally, Reliant Energy's regulated subsidiaries own and operate 14,000 MW of generation in Texas, and its European subsidiary owns and operates 3,500 MW in Western Europe.

II. Reliant Energy has been working diligently to be a part of the California solution since entering this market in 1998; our efforts have included attempting to improve flawed market structures through a leadership role with the California Independent System Operator (CAISO) and Power Exchange (PX), working with the Federal Energy Regulatory Commission (FERC) to establish market rules that will attract new capital investment, providing an unprecedented amount of power from an aged fleet of units in 2000 to help meet California's demand, and cooperating with all investigations attempting to address market solutions.

III. Our market perspective, which is that of a participant who has invested heavily in learning this and other mature power markets, can be summarized as follows: a) the current crisis in California is a product of supply/demand fundamentals; b) responses to the market situation have yet to address the underlying supply/demand problem; and c) the risk of supply shortages and outages will become more severe as hotter Summer temperatures significantly increase the demand for electricity in the Summer 2001.

California supply/demand fundamentals. The supply shortages experienced in California have been brought on by years of neglecting supply/demand fundamentals. No significant generation has been built in California in more than a decade while California's economy, and hence its electric demand, has surged dramatically. This fragile supply/demand balance became evident in the Summer of 2000 due to increased temperatures and reduced hydro electric capacity. In addition, high natural gas prices along with flawed market rules have exacerbated the extent of the crisis.

Responses to the current market situation. The FERC's December 15 Order established a framework for needed market reform; however, the State of California has been slow to adopt measures that would alleviate the supply/demand problem (particularly by increasing retail rates to better reflect market costs). Instead, the state has focused on an inaccurate perception of market manipulation. This reluctance to raise retail rates has lessened consumer incentives to reduce electricity consumption and has intensified the IOU credit crisis, which in turn worsens the supply crisis.

The California market outlook for Summer 2001. In a worst case scenario, California could face power generation emergencies this Summer with far more serious consequences than those experienced to date. Unfortunately, there is no "silver bullet" for the near-term supply shortage; demand reduction initiatives are required across the entire Western region to mitigate the high risk of forced blackouts. However, because many of these demand reduction initiatives will require extended lead times to implement, immediate action is required.

IV. Market-based solutions and competition will provide the fastest, most effective relief and remedies to California's supply/demand problems—if state, local and federal laws and regulations are adopted that remove existing impediments to siting new generation facilities and facilitate the development of regional market-based solutions.

Testimony

I. Reliant Energy is the owner of approximately 3,800 megawatts (MW) of California generation and is an active participant in the Western power markets. We also own an additional 5,600 MW of generation across the country (including approximately 4,200 MW in the Mid-Atlantic (PJM) region), have 6,500 MW of generation in construction or advanced development, control 2,000 MW through multi-year contracts, and participate in most domestic gas and power markets. Additionally, Reliant Energy's regulated subsidiaries own and operate 14,000 MW of generation in Texas, and its European subsidiary owns and operates 3,500 MW in Western Europe.

An established energy provider. Reliant Energy, based in Houston, Texas, is an international energy services and energy delivery company with approximately \$20

billion in annual revenue and assets totaling more than \$28 billion. The company also has a wholesale energy trading and marketing business that ranks among the top five in the U.S. in combined electricity and natural gas volumes. It also has wholesale trading and marketing operations in Western Europe. The company has nearly 27,000 MW of regulated and unregulated power generation in operation in the U.S. and Western Europe and has announced acquisitions and development projects that will add nearly 6,500 MW.

Reliant's presence in the Western region, including California. Reliant Energy entered the California market in 1998 acquiring 3,800 MW of generation, consisting of 5 plants in Southern California, in three transactions from Southern California Edison. We also have an additional 1,400 MW of generation in construction or advanced development in the Western region. Using an often quoted rule of thumb, Reliant's generation fleet could provide power for approximately 4 million homes in California.

A fragmented market in California. Although we are one of the larger merchant generators in California and across the country, our share of the market is only 3% of the WSCC (the Western System Coordinating Council)—which is the market that includes California, most of the other Western states, and western Canada—and we have no more than a 10% share in any other market. We make this point to show the fragmented nature of supply ownership in WSCC and most markets. Additionally, the ownership of generation in California still resides largely in the hands of the regulated electric utilities, which are the three utilities represented on the left side of the following chart.*

II. Reliant Energy has been working diligently to be a part of the California solution since entering this market in 1998; our efforts have included attempting to improve flawed market structures through a leadership role with the ISO and PX, working at the FERC to establish market rules that will attract new capital investment, providing an unprecedented amount of power from an aged fleet of units in 2000 to help meet California's demand, and cooperating with all investigations attempting to address market solutions.

Attempting to improve flawed market structures. While multi-year contracts have existed in California since 1998, the IOUs in California were largely precluded by legislative and regulatory restrictions from participating in these markets. Reliant has been a proponent of expanded forward contracting by the IOUs to mitigate exposure to the price volatility associated with the spot market. We have also been an active participant and contributor to the processes for improving the CAISO and PX, working closely and communicating well with both agencies, as well as gaining the respect of staff and management at both agencies.

Working with FERC to establish market rules. With respect to FERC proceedings governing the evolution of the wholesale markets, we have been very active, frequently assuming a leadership role in terms of addressing and improving market structures. We were very active in the recent efforts including 1) the DOE/Treasury Department "Energy Summits," 2) FERC's forward contract proceeding with the California utilities, and 3) workshops to lay out the facts and to try to develop solutions.

Providing an unprecedented amount of power from a 35-year-old fleet. The average age of Reliant's generating units in California is more than 35 years. The average heat rate of our California generating units is more than 10,000 British thermal units per kilowatt hour (Btu/kWh). This is an older and relatively inefficient fleet of generating units compared to the efficiencies associated with new generating technologies, which have heat rates as low as 7,000 Btu/kWh. In fact, at the time Reliant acquired its California units it anticipated retiring a number of these units. But with electric demand soaring Reliant has had to pour millions of dollars in new capital into these units to keep them operating and extend their operating lives.

We are proud of our contributions to keep generation running to try to meet the demand for power in California. Reliant Energy's plant and technical staffs have worked hard to maximize the performance of our generation. During the Summer of 2000 for example, we ran this fleet at double the rate of the prior 5-year average—despite the age of the fleet and the fact that necessary maintenance had been deferred on a number of these units prior to their sale by SCE. To achieve this result, maintenance on many of these units has now been deferred to the point that more serious availability problems may result in upcoming months unless the units are taken down soon for needed maintenance. While the existing supply problems in California are serious, the potential for even greater problems exists for this Summer, especially if required maintenance is not performed soon.

*The exhibits and appendix have been retained in committee files.

We went to extraordinary efforts in overtime, innovation, and assumed risk to achieve these results. Unfortunately, many parties do not understand that these generation units are being run far harder and for more extended periods of time than historically. The total energy production from Reliant Energy's California generation fleet was 10.9 million MWh in 2000 compared with 6.1 in 1999 and 3.6 in 1998 (see Chart A-1 in the appendix). We are confident that the results of the various investigations into the so-called withholding issue will verify the above statements. We welcome such investigations to the extent that they can disabuse people of flawed notions and get everyone focused on the real problem at hand—a serious lack of capacity in California.

Our energy production could be further increased were it not for the most restrictive emission limitations in the country imposed by local California air boards, which limit the operating hours of some units:

- At our current higher-than-normal operating rate, these restrictions will idle significant capacity (approximately 900 MW of Reliant Energy's portfolio) this Summer when really needed for peak demand.
- There have been some allowances made by local California air boards to date. Broader temporary relief of these most restrictive emissions limitations could increase overall energy production by up to 20% for our portfolio and potentially even more for some of the other generation owners in California. Temporarily lifting emissions restrictions may be necessary given the supply shortage California faces this Summer (discussed further in Section III).

III. Our market perspective, which is that of a participant who has invested heavily in learning this and other mature power markets, can be summarized as follows: a) the current crisis in California is a product of supply/demand fundamentals; b) responses to the market situation have yet to address the underlying supply/demand problem; and c) the risk of supply shortages and outages will become more severe as hotter Summer temperatures significantly increase the demand for electricity in the Summer of 2001.

California supply/demand fundamentals. The supply shortages experienced in California have been brought on by years of neglecting supply/demand fundamentals. No significant generation has been built in California in more than a decade while California's economy, and hence its electric demand, have surged dramatically. This fragile supply/demand balance became evident in the Summer of 2000 due to increased temperatures and reduced hydro electric capacity. In addition, high natural gas prices along with flawed market rules have exacerbated the extent of the crisis.

Note: Our perceptions of supply/demand tightness in the California energy environment are consistent with similar conclusions from the recent FERC investigation (in connection with the Staff Report issued in November) and the Treasury Department analyses (in connection with the early January "Energy Summits").

The current situation in California results from years of neglecting supply and demand fundamentals, which have dramatically increased the risk for power shortages in California. As the demand for electricity has increased, California has relied increasingly on power from volatile sources (e.g., imports and hydro electric), rather than developing internal power generation to support the state's needs.

- Reserve margins before imports in California have shrunk from 15% in the early 1990's to near zero today.
- California rules for siting and permitting plants have curtailed the development of necessary internal supply.
- The percentage of California's power supplied by imports has doubled from 13% to 26% since 1990.
- Heavy dependence on hydro power (24% of capacity) increases the uncertainty of supply given the dependency of this resource on precipitation levels.
- Limitations caused by the transmission infrastructure can significantly limit importing supplies from other Western states (import transmission was congested 36% of peak time in Summer 1999).

The limitations of the existing system became transparent when the high risk of power shortages finally hit California full force during the Summer of 2000:

- Summer energy demand increased by 13% due to high temperatures, while imports were reduced by 53% versus 1999.
- Hydro electric output was reduced by 28% versus 1999 as a result of lower precipitation.
- Forced outages on generation plants more than doubled as a result of higher operating hours (run times almost doubled for Reliant plants from 1999 to

2000). In the Fall of 2000, outages remained high primarily due to nuclear refueling and retrofitting of plants with better emissions reduction technology.

Acute supply shortfalls combined with a fly-up in natural gas prices and flawed market rules have exacerbated the extent of the crisis.

- California gas prices have increased from \$2.37 (January 2000) to \$14.33 per million British thermal units (MMBtu) (January 2001), and have exceeded \$50.00/MMBtu at times (see Chart A-2 in the appendix).
- The Competitive Transition Charge (CTC) design discouraged retail competition and long term risk management.
- IOUs were required to buy almost all power from the more volatile spot market.
- Retail rate freeze prevented California IOUs from passing on energy purchase costs.
- The current credit crisis, which has had an additional impact on supply, is a direct result of flawed market rules.

Responses to the current market situation. The FERC's December 15 Order established a framework for needed market reform; however, the State of California has been slow to adopt measures that would alleviate the supply/demand problem (particularly by increasing retail rates to better reflect market costs). Instead, the state has focused on an inaccurate perception of market manipulation. This reluctance to raise retail rates has lessened consumer incentives to reduce electricity consumption and has intensified the utility credit crisis, which in turn worsens the supply crisis.

FERC's December 15th Order attempts to address many market defects, such as, elimination of "hard" price caps and facilitating more forward contracting. In addition, the Order clearly identifies certain actions that the State of California must take to implement the market reforms identified by FERC.

The State of California has created a retail consumer subsidy by failing to raise rates to reflect market conditions and pass on the increased costs of energy generation to consumers. In the year 2000, natural gas costs increased significantly, but the California utilities could not recoup these costs from the consumers that they are obligated to serve.

- Gas-fired generation constitutes 51.5% of California's energy production (see Chart A-3 in the appendix).
- The high cost of natural gas underlies much of the current price increase issue.
- The \$14.33/MMBtu price compares to \$1.63/MMBtu price in 1996 when retail rates were frozen by California's deregulation legislation.
- Many states (e.g., Texas) with better access to fuel and no supply shortage have raised retail rates more than 20% in recent months to address increases in natural gas costs while California only recently raised rates approximately 10% (after a 10% decrease in 1996) (see Chart A-4 in the appendix).
- Filed rate doctrine supports the flow through of wholesale power costs approved by FERC to reflect increases in fuel and emission costs. The California Public Utility Commission (PUC) has so far refused to recognize this judicially approved doctrine.

Unfortunately, attention has been diverted from the supply problem by the incorrect perception of market manipulation. The PUC, along with the California Electricity Oversight Committee, has compared prices from June 29, 1999 to June 29, 2000 in an effort to demonstrate the dysfunctional market. The PUC's analysis shows that under similar demand conditions of approximately 41,500 MW, PX prices for power during peak hours averaged \$50/MWh on June 29, 1999 and \$500/MWh on June 29, 2000. However, upon closer analysis, this example does not support market manipulation charges and demonstrates a failure to properly analyze and understand three key factors: 1) the balance of supply and demand in the Western region (not just California), 2) increases in natural gas and emissions credits prices, and 3) bidding behavior on the part of the buyer (not the supplier).

Regional supply and demand balance. The June 29 example illustrates how, in similar demand situations, the availability of imports can have a tremendous impact on California supply. In the given scenario, the net imports on June 29, 2000 at 4 p.m. were 4,500 MW (see Chart A-5 in appendix) lower than on June 29, 1999, which was over 11% of the 41,500 MW demand. This reduction in net imports, resulting in a leftward shift in the supply curve (see Exhibit 2: CAL-PX Aggregate Supply/Demand Bid Curves at 4 p.m. on June 29), put upward pressure on PX prices as local generation capacity struggled to meet demand.

Increases in natural gas/emissions credit prices. Gas prices on June 29, 2000 were \$5.11 per MMBTU versus \$2.37 on June 29, 1999. Emissions credits prices were \$23.00/lb on June 29, 2000 versus \$2.00/lb on June 29, 1999. These higher operating costs result in a further steepening of the supply curve (Exhibit 2).

Buyer bidding behavior. Faced with a tight supply/demand balance, buyers dramatically altered their bidding behavior in 2000. The demand bidding curve jumped by 300-500% (see Exhibit 2) from June 29, 1999 to June 29, 2000. This is a clear example of how buyer behavior can have a major impact on market price during periods of scarcity of supply.

The California market outlook for Summer 2001. In a worst case scenario, California could face power shortages this Summer with far more serious consequences than those experienced to date. Unfortunately, there is no “silver bullet” for the near-term supply shortage; demand reduction initiatives are required across the entire Western region to mitigate the high risk of forced blackouts. However, because many of these demand reductions initiatives will require extended lead times to implement, immediate action is required.

Worst case scenario. The potential for shortages and blackouts is very real for the Summer of 2001. A downside scenario includes 1) low hydroelectric availability (Bonneville Power Administration estimates are currently 68% of average—one of the worst hydro years on record); 2) loss of imports due to credit concerns (with the California Department of Water Resources or other purchaser); 3) warmer than normal weather (current long-term weather view); 4) continued high demand (strong economic outlook for California and the entire West); 5) plant outage rates at 2000 levels (although the hard running 2000 levels may cause additional outages in 2001); and 6) continued strict local environmental constraints (recent news stories show that despite the crisis, “NIMBY” and “BANANA” activity is still at very high levels). The combined impact of these factors could mean as much as 1,100 hours of blackouts for the rest of the year.

Our analysis shows that even in the case of normal weather, the low hydro generation availability and base/optimistic assumptions for other factors could still result in approximately 50 hours of blackouts. Essentially, California will have to be incredibly fortunate with respect to cool weather, high hydro generation availability, and unprecedented conservation offsetting demand growth to avoid blackouts this Summer.

Potential consequences. Recent blackouts, which were only the result of a 500 MW shortfall, have demonstrated the potential for serious economic and social disruptions. Events include the loss of power to 500,000 California residents. Businesses were forced to send thousands of employees home. Schools had to close or hold classes without power. Power shortages led to traffic light outages and the shutdown of ATMs. Dairy farmers had to dispose of milk, while citrus farmers feared the power losses would lead to a failure to protect the crops from freezing. Power shortages during the Summer of 2001 could lead to more serious repercussions:

- Blackouts could be ten times worse, at up to 5,000 MW;
- Outage duration could be up to 6 hours per day;
- The blackouts could affect as many as 20-30 million people; and
- Economic cost of outages can be estimated in the multiple billions of dollars.

Need for immediate action. There is little time left to take action, and very little new generation is coming on line before we hit the Summer peak in approximately 90 days. Historically, Summer peak demand increases by approximately 40% over current levels. Current actions are severely exacerbating the potential Summer supply shortfall:

- Generators with run time limits which are typically allocated to the Summer are running now and will exceed their limits by the Summer peak season;
- PG&E and SCE are utilizing limited load curtailment rights normally reserved for peak Summer loads—essentially eliminating interruptible load as a source of future relief for the rest of the year; and
- PG&E has had to access natural gas from its storage inventory which reduces available volume for the remainder of the year—reportedly now at critical levels.

Emergency solutions for the short term. Given the short time until Summer 2001, major supply additions are not likely to be forthcoming. Potential solutions must focus on region-wide demand reduction programs. A set of solutions limited only to California, not encompassing the West region, is very likely to be inadequate.

- Significant construction of new generation by this Summer is not likely given the 2-4 years permitting and construction cycle.
- Averting high risk of supply shortages and forced blackouts will require unprecedented demand reduction programs throughout the West region.

—Continued exercise of involuntary interruptions of industrial customers in California under interruptible tariffs could add approximately 2,800 MW.

Rights under these tariffs need to be extended by creating economic incentives to continue to allow interruptions.

—Voluntary curtailments of new interruptible customers in the West region, outside California, could add approximately 1,800 MW.

—Buying back power from industrial customers across the West region at prices they voluntarily accept could add approximately 3,000 MW.

—Buying back power from aluminum smelters in the Pacific Northwest could add 3,100 MW.

—Very aggressive conservation by California residential customers has the potential to add approximately 600 MW in the near term; however, the lack of accurate retail price signals prevents consumer incentives to conserve energy.

- In addition, California must fix the credit problems in the state in order to incent neighboring states to sell their excess power which could add 4,800 MW.
- Local air board environmental restrictions should be relaxed temporarily to add approximately 1,900 MW.

IV. Market solutions and competition will provide the fastest, most effective relief and remedies to the supply/demand problem—if state, local and federal laws and regulations are adopted that remove impediments and facilitate regional solutions.

Remedies must address supply/demand issue. The supply/demand problem California is currently experiencing is rooted in a variety of interrelated factors, several of which have been driven by shortsighted desires to artificially depress prices below market levels:

- A decade of resource planning neglect has resulted in demand rapidly overtaking supply and reducing reserve margins to near zero with little advance notice.
- Market intervention, both in terms of California's failure to allow retail rates to increase to reflect increases in energy and emission costs and in the CAISO's misguided use of price caps, has resulted in flawed pricing signals on both the demand and supply side.

—Retail consumers receiving artificially low retail price signals have not been encouraged, and have had no incentive, to conserve usage contributing to higher demand levels than would otherwise have been the case.

—Suppliers have looked at California skeptically in terms of additional capital investment in new facilities given numerous efforts to intervene in the market. These efforts have created a level of uncertainty that makes suppliers reluctant to invest significant amounts of incremental capital in California.

- The lack of statewide siting criteria has created a "not in my backyard" attitude when it comes to siting new generation facilities, making California one of the most difficult and time consuming states in which to site and permit a new generation facility in the United States.

Addressing demand issues. From the demand side, increasing retail rates to reflect the true cost of supply will encourage necessary conservation and the development of demand side management tools to mitigate the need for additional generation capacity.

Addressing supply issues. From the supply side, assuming the siting and permitting impediments described above are addressed by the State of California, market forces, without heavy handed price cap intervention, will result in new capacity being built in California. As additional capacity is built, prices will inevitably fall. For this to happen, however, suppliers must perceive California as a stable market for incremental investment—not a state whose policies are driven by short-term considerations.

Removing impediments to regional solutions. To accomplish the foregoing there will also need to be a greater emphasis on dealing with energy issues in the West on a regional basis. As the present situation demonstrates, California's failure to address its energy problem has regional implications. The energy interdependence of the region is undeniable and solutions need to be crafted that take regional implications into account, especially in the near term.

The CHAIRMAN. Thank you very much. We appreciate your statement, and we will review your written statement in its entirety.

Mr. Keith Bailey, president and chief executive officer, the Williams Companies, Tulsa, Oklahoma.

**STATEMENT OF KEITH BAILEY, CHAIRMAN, THE WILLIAMS
COMPANIES, INC., TULSA, OK**

Mr. BAILEY. Thank you, Mr. Chairman. I will attempt to be brief, and I appreciate you putting my filed testimony in the record.

As you saw from the filed testimony, what we have attempted to do as we participated actively in the dialogue with the State leaders as well as the Federal participants is to focus not on how we got to where we are, but rather how we get from where we are to where we would like to be, and so the comments I will make will be in that context. Where do we go, really, from here?

We acknowledge that where we are is at a point, with California having a significant shortfall of available capacity, when it looks at all of the sources that it can draw on and that is a function of—why we are here has been I think pretty well documented by the prior panel, and the prior panelists on this panel, but in the short term we think the most important thing that can be accomplished—by short term I mean immediately, is that the State needs to step in and become the credit-worthy buyer of the net short position, and it needs to do that in unambiguous way, not trying to do just enough, or using half measures. It has to do it clearly and decisively.

The reason is, as you pointed out in your opening comments, California is a major importer of power and people that sell to import nations or import States will simply not sell to uncredit-worthy buyers. There is also a practical benefit to that, because the forward price curves for power today, and the current cost of power today, carry with them a credit risk, and the elimination of that credit risk in a decisive way will immediately, in our judgment, reduce both the current cost and the forward cost of power.

In the medium term, and by this I mean between now and summer, we think it is absolutely essential that there be a lifting of the air quality regulations that are preventing the installation of new facilities, or the running of existing facilities, and panelists to my right have described some of those impacts.

We look at it in the aggregate, and it is our belief that that act alone, and it will probably take a combination of Federal and State action, would add 4,000 megawatts to the available capacity during the summer months that otherwise might not be there and, as Senator Feinstein pointed out, that is as significant amount of power at the margin that can make a difference.

Finally, in the long term, we need to have an investing climate in California that is not built from the standpoint of bankrupting utilities, retroactive rule changes, price caps, or expropriation of private assets. That sounds a whole lot more like a third world country than it does our most prosperous State, and the practical impact of that kind of rhetoric, whether it is ultimately where we end up or not, and I do not believe it is where we will end up, but the practical impact of that rhetoric is increased risk perception and that, in turn, translates very directly into the pricing curves that people trade around.

So again, a clear road map that the utilities' financial strength is going to be restored, that California is going to do the kinds of things that make it a place that people want to invest, will also have a short-term benefit of making the power markets more rea-

sonably priced and that will also then ensure that private investors continue to put capital into the State.

Hopefully I have given you a little time back, Mr. Chairman.
[The prepared statement of Mr. Bailey follows:]

PREPARED STATEMENT OF KEITH BAILEY, CHAIRMAN, THE WILLIAMS COMPANIES,
INC., TULSA, OK

I am Keith Bailey, President, CEO and Chairman of The Williams Companies. Williams is a Tulsa based energy and communications company with some \$33 billion in assets and about 22,000 employees. We entered the competitive communications market some 16 years ago with the breakup of AT&T and have seen first hand the benefits that competition has brought to that market. We recently completed a major expansion of our national fiber optic network which now spans some 33,000 miles in the continental United States and is considered by many industry observers to be the most innovative and leading edge fiber network in the world.

Of course I am here today before the Committee because of our energy business. On the energy side we operate across the spectrum of businesses that exist from the wellhead to the end user. We are a top 25 independent exploration and production company. We are one of the largest natural gas pipeline companies with five wholly owned systems, which literally span the country in all directions. We also have minority interests in two major import pipelines serving the United States with Canadian gas. On any given day our systems transport some 17% of the nation's demand for natural gas. We are among the very largest North American natural gas gathering and processing companies and are a market leader in the natural gas liquids area. We have two refineries and a series of retail gasoline outlets. Williams owns a major petroleum pipeline company and owns and operates the largest independent petroleum storage operation in the country.

More recently, we have entered the power business and currently own or dispatch in excess of 9000MW of power generation facilities spread across the United States, including nearly 4000MW in the Los Angeles basin. In addition, we are a major marketer and trader of a full range of energy commodities, including power. Finally, as an asset intensive company, we are also a major consumer of energy. We believe this range of activities and experience in the energy business gives us a good platform from which to understand both the current problems in the California power markets and the best pathway to correcting those problems.

From a broad perspective, the factors that have contributed to the current situation in California appear clear and many press articles and media reports have discussed them extensively. In the attempt to deregulate power markets and reduce prices, policies were adopted that at the time offered some short-term appeal but which have proved over the longer term to have actually driven the outcome in the opposite direction of what the policies were intended to produce. The fatal flaw was to attempt to mix artificial pricing constraints with a partially deregulated market. The fundamental problem was a system that did little or nothing to provide true market based price signals to the end user. This essentially allowed demand to grow in an artificial and unconstrained way that likely would not have occurred to the same degree had market forces been allowed to work fully.

But while understanding the past is instructive, as a participant in the California market, our focus is on helping to chart a path that takes us from where we are today to where the State believed it was going when it set out down the path of deregulation. Obviously, overarching all of this is an ongoing emphasis on intelligent power consumption through aggressive conservation measures. In addition, we believe there are three elements operating in different time frames that must ultimately be part of that solution.

Short Term:

First, there must be a creditworthy buyer in California to purchase the power necessary to meet demand. At present the utilities in the State are unable to do so, given their financial constraints. At this point the only creditworthy buyer is the State of California or one of its agencies.

Second, everything possible must be done to enable the dispatching of the maximum amount of generating capacity, which can be made available each and every day. That may, and probably will, involve a temporary waiver of some of the environmental limitations that prevent that from happening today.

Finally, the purchasers of power must be able to use the full range of contracting options available in today's market both from the standpoint of duration of pur-

chases (long, intermediate and short-term) and the type of power being purchased (base load, standby, peaking).

Medium Term:

All barriers to installing new power generating capacity must be re-examined with the objective of expediting the permitting process and bringing as much new capacity on line as early as possible. We recently brought a plant online in another part of the country that went from concept to operation in 9 months. It can be done if everyone involved is committed to the task.

In addition, the short term environmental waivers discussed above may need to be extended on existing facilities. Deadlines to retrofit these facilities with more stringent emission controls may also need to be deferred to preserve the maximum possible generating capacity availability until new units can be brought on stream.

Long Term:

The financial viability of the state's utilities must be restored. Failure to do so would create an environment that would deter needed private investment. The competitive market and the private sector can and will work to bring demand and supply back into balance, but only as long as California remains an attractive place to invest.

Williams appreciates the opportunity to share its views in this matter with the Committee and looks forward to being a constructive part of finding the solutions that we all seek.

The CHAIRMAN. Thank you very much for that very concise statement and specific recommendations relative to the immediate, intermediate, and long term.

Next, we will call on Mr. Richard Ferreira. Mr. Ferreira is the executive advisor for the Sacramento Municipal Utility District, Sacramento. Please proceed.

**STATEMENT OF RICHARD FERREIRA, EXECUTIVE ADVISOR,
SACRAMENTO MUNICIPAL UTILITY DISTRICT, SACRAMENTO,
CA**

Mr. FERREIRA. Thank you, Mr. Chairman, for the invitation to speak here today. I would also like to say a special hello to Senator Feinstein of California and to thank her and her staff for all the time and effort they put in trying to solve this problem.

I would like to begin by just making a couple of brief comments about the Sacramento Municipal Utility District, or SMUD. SMUD serves about 1.2 million citizens in the county of Sacramento, and it is a community-owned or municipal-owned system. During the State restructuring debate, community utilities argued that we should be allowed to retain local control and make their own decisions about retail access. All of the California municipal utilities, including SMUD, determined that it was in the best interests of the consumers to keep the obligation to serve and retain ownership of generation and transmission.

The California restructuring law respected our right to local control and allowed us to maintain ownership and to mitigate risk by buying power in the forward markets to reduce our exposure to spot prices. This is not to say that SMUD and its customers were not hurt by the market. Runaway wholesale prices have caused us to spend more than \$60 million more than what we had budgeted during last year. We have no financial reserve left, and we are facing higher prices in the market.

We believe the problem is a regional issue not limited to the borders of California. Neither California nor any of the surrounding States can be considered a gated community in the electrical market. We already know that it is affecting all the Western markets,

including Canada. We are beginning to see signs in other parts of the States, such as New York, in which we have a critical imbalance between supply and demand. We think California is not an isolated incident, but rather is the proverbial canary-in-the-coal-mine warning that we need changes in our national energy policy.

We believe there are actions that Congress can and should take in both the short and the long term to address the immediate crisis and lead to a workably competitive market. Clearly, there are steps that California should take on its own, and you have heard some of those comments this morning, including lessening demand, building more generation and transmission, and stabilizing rates. My written testimony describes these steps in more detail.

While these are important measures, they are only part of the solution. We also think there is a need for Federal action to get California, the West, and the Nation back on track. Specifically, first, we suggest a temporary regional price cap on wholesale prices until there is an adequate supply in the region. A price cap is necessary to stabilize market conditions and to allow time for generation and transmission investment and market improvements to bear fruit.

SMUD would be the first to admit that price caps are not an ideal solution. However, we must face facts. You cannot have competition without an adequate supply. The alternative is runaway high prices for a significant period of time, which causes tremendous social and economic disruption.

While additional generation is planned for California and the region, only a small percentage will come online this year. The majority of the new supply will not be available to consumers over the next 2 or 3 years. SMUD is concerned that if prices do not stabilize, political leaders of, in our case California, or the voters, will simply pull the plug on electric competition.

We recognize that there are valid objections to price caps. For example, some argue that price caps will inhibit new supply or not fully compensate suppliers. SMUD believes a price cap can be fashioned to address this objection by ensuring that the cap is high enough to allow the generator to recover its capital cost and to earn a reasonable profit.

I would also like to make a few comments on market power. Both as a short-term remedy and long-term solution we need Federal action to deal with market power abuses. Independent studies conducted by the California ISO and others show evidence of market manipulation. SMUD believes FERC has the authority and needs other resources to identify potential market power abuses and impose sanctions and penalties if, in fact, that occurs.

I can assure the committee that you would not see prices in California every hour of every day, including 3 o'clock in the morning, if we truly had a competitive market. To provide a longer term solution we desperately need a national energy policy that promotes fuel diversity, energy efficiency, conservation, and new supply technologies. Currently, the United States is betting its entire energy future on natural gas. We have been a leader in Sacramento—

The CHAIRMAN. I would ask you to summarize the balance of your statement, please. Your time has expired.

Mr. FERREIRA. Thank you, Mr. Chairman. I would like to just finally urge the committee to continue its efforts in reforming the ex-

isting hydro relicensing process. Relicensing currently results in higher cost and some degradation, as we have heard earlier. We think this can be done and still respect our environmental commitments.

In conclusion, the California energy crisis has already caused significant economic dislocation in the entire West. Certain solutions are within California's grasp and responsibility. Long term and more effective remedies require Federal action, and in the long term we can use the attention generated by the crisis in California to increase emphasis on energy efficiency and diversity and promote alternative sources.

Thank you.

[The prepared statement of Mr. Ferreira follows:]

PREPARED STATEMENT OF RICHARD FERREIRA, EXECUTIVE ADVISOR, SACRAMENTO
MUNICIPAL UTILITY DISTRICT, SACRAMENTO, CA

INTRODUCTION AND SUMMARY

Mr. Chairman and Members of the Committee, thank you very much for the opportunity to appear before you today. The fact that you have convened this hearing shows that you understand how important resolution of the current energy crisis is for California, and the entire Western United States.

Frankly, the current situation is bleak. We are experiencing outages in the middle of January. Utility operators are dreading what might happen in a few months when we near our summer peak. We face razor-thin reserve margins on a daily basis, and routine plant or transmission line failures can trigger rotating outages. In the wholesale power markets, the apparent floor for spot market energy prices is higher than peak prices of the not-so-distant past. Manufacturers have already postponed planned expansions due to energy price and reliability concerns, adding to fears of an economic downturn. And there are no easy solutions. Based on our best estimates, it will take years to get the needed transmission and generation facilities built to support a competitive market.

The current situation in California has national import as well, as Federal Reserve Chairman Greenspan has already recognized. I was pleased to hear this week that President Bush has formed a Task Force under the leadership of Vice President Cheney to tackle what has become a regional problem. California will take certain steps to ameliorate the current crisis, but many of the problems must be addressed on a regional basis. Only the federal government can accomplish regional solutions.

By way of introduction, let me tell you a little about the Sacramento Municipal Utility District, or SMUD, on whose behalf I appear before you today. SMUD is a consumer-owned municipal utility that serves approximately 1.5 million persons in the greater Sacramento area. During debates on AB 1890, California's restructuring law, SMUD and other municipal utilities fought for and retained local control over our energy choices in the competitive market.

This local control has significant practical manifestations. Because of local control, SMUD retained its obligation to plan for and serve the electricity needs of our consumer-owners. It has never been SMUD's belief that competition relieved SMUD of its responsibility to ensure that its customers had sufficient electric supply at stable prices. As a consequence, SMUD and other municipal utilities retained their power plants dedicated to serve native load customers. This is in direct contrast to our investor-owned colleagues in California who, because of regulatory orders and business decisions, sold a high percentage of their generation assets and declined to build new generation. We have also not transferred away rights to use regional transmission facilities, built at great expense, to deliver economic energy from other parts of the Western region to our customers. This has given us further ability to mitigate market risk for our customer-owners.

All things considered, SMUD has been able to weather the market volatility and high prices relatively well as compared to our investor-owned neighbors. However, there is no escaping the market forces that have been unleashed. SMUD, like most businesses and consumers in California, is exposed to high market prices. Today, SMUD is about to commence a rate proceeding due to high market prices for both electricity, and the natural gas that powers our local power plants.

As I will discuss in more detail later in my remarks, there are steps California can take to help itself. A series of well-chronicled events, exacerbated by well inten-

tioned but mistaken market experiments in California, have contributed to the current situation. However, the solution will not arrive overnight, just as the problem did not arise overnight. Needed investments and market improvements will take some time to bear fruit. Further, the one overarching lesson from the California experiment is that a piecemeal, state-by-state approach to market development and market oversight will simply not work. A regional approach to markets is required, and only the federal government can make this happen. Therefore, SMUD believes that the federal government does have a role to:

- help stabilize the current regional wholesale market until needed investment in generation and transmission is made;
- act as the steward for regional market reforms that have the best chance to make the promise of competition a reality; and
- encourage investment in energy efficiency and supply through a reinvigorated national energy policy.

BACKGROUND—A ROAD PAVED WITH GOOD INTENTIONS

As I stated above, we have a regional energy crisis on our hands. Actions taken by California have exacerbated the situation. You have no doubt read and heard much about California's failure to build new generation and transmission in the face of growing demand. This is certainly true. What is also true is that investment in generation and transmission has not kept pace with demand throughout the West. Lack of facility investment is not a uniquely California phenomenon. What we did in California, however, is adopt market structures that laid the infrastructure inadequacies bare for market participants to exploit. I would make the following additional observations regarding the road to competition in California.

First, California opened up its markets at a time when reserve margins throughout the Western United States were dropping. It has been well chronicled that increased demand in the growing West has caused surpluses in regions such as the Pacific Northwest and Desert Southwest to diminish. California was already a net importer of electricity, and it saw its traditional suppliers with less power to export to California during peak summer periods. At the same time, as California demand grew, less power could be returned from California to the Pacific Northwest during California's off-peak winter periods, as had been the traditional practice. Therefore, tighter reserve margins affected the entire Western region. On occasion this year, prices outside California have exceeded prices inside California, due to several factors. In a regional market, if the highest price in the West is in California, buyers in Portland and Phoenix will be forced to pay close to the California price. Likewise, if the price in the Northwest is the highest, that price is likely to prevail throughout the West.

The difference is that California adopted a market design that paid all bidders the highest, or marginal, price paid for electricity. This raised the overall amount paid for energy exponentially. Elsewhere in the region, markets worked the "old fashioned" way, and the highest price was only paid for that last increment of energy needed. Thus, the overall affect on consumers in California was much greater. The lesson that was reinforced over the past year is that California is not a "gated community" when it comes to electrical supply. What we have also learned is that no other individual state is likely to succeed in building a fence at its borders due to West-wide supply tightening and overall market forces. Price is a regional matter, and remedies for high prices must be regional in scope.

Second, California's road to restructuring can be characterized as a "Wait, Then Hurry Up" approach. This had an adverse affect on utility infrastructure investment. Serious restructuring discussions began in California in the early 1990's. Over a period of years, California regulators issued Yellow Books and then Blue Books after entertaining endless comments from stakeholders. The state legislature then joined the fray, and AB 1890 was signed into law in 1996. Already California had endured several years of regulatory uncertainty, contributing to the lack of investment in both needed generation and transmission facilities.

Once AB 1890 was enacted, however, it seemed things could not be done fast enough. The law directed that the entire industry, from trading of power to operation of transmission, be radically altered in less than eighteen months. Since the March 1998 start-up of the markets, there have been over forty filings at the Federal Energy Regulatory Commission making major or minor changes to market rules. Uncertainty due to regulatory inaction was, therefore, followed by instability of market rules, further dampening investment in a capital-intensive industry. Thus, California managed to combine the worst of regulatory delay and inaction, with the worst of hasty implementation. This approach exacerbated already poor market fundamentals of short supply.

Third, California implemented radical changes to the rules of wholesale power trading that ignored prevailing regional practices. Instead of the old model of an industry based on relatively predictable behavior by buyers, sellers, and operators of the Grid, California implemented a system that encouraged last minute trading of electricity in an effort to extract efficiencies from the market. Attractive on the chalkboard, it did not work when put into practice. The inability of customers to say “no” when prices were too high gave more leverage to suppliers in an already tight market, because buyers were looking to meet their needs in real time, rather than locking in supply months or years in advance, as had traditionally been done. The rest of the Western region also resisted California’s approach. The result is that rules governing trading and grid operation vary greatly between California and the rest of the West. In hindsight, this could have been easily avoided. It also points to the need for regional solutions.

Thus, California made several errors that contributed to the market dysfunction witnessed today. We not only have a crisis brought on by a supply/demand imbalance, but we unintentionally aided and abetted this fundamental imbalance by the manner in which we implemented restructuring, despite the best intentions of California stakeholders.

Avoiding California’s Mistakes—Lessons Learned

Other states can try to avoid the mistakes of California. I would make the following observations on lessons learned from our painful experience.

First, competition in the electric utility industry will not just happen with a wave of the so-called “invisible hand.” Workable competition requires certain preconditions be met before markets can be relied on to reach competitive outcomes. There must be sufficient, and probably a surplus, reserve margin of supply in order to discipline price. In a tight market, because of the essential nature of the commodity and the inability to effectively store electricity, demand behavior is predictable and sellers can essentially name their price. Without adequate reserve margins, it may be virtually impossible to discipline prices charged by suppliers. Lesson Number One from California may be that, in a competitive era, we need much more generation on line ready to serve consumers than we built in a vertically integrated, regulated industry, in order to maintain price discipline in markets. This lesson must work its way into how we examine regional markets when determining the potential for the exercise of market power by suppliers.

Second, markets will not work if, no matter what the price level is, demand remains almost the same. Demand responsiveness is taken for granted in most other markets. Implementation of demand responsiveness in electricity markets presents a greater challenge. I have not seen great strides in this area in California or elsewhere. While regulators, including FERC, talk about customers bidding their demand into markets just like suppliers bid their output, these programs are in their infancy and are far from fruition. The California ISO continues to try to implement such programs, with limited success. We are a little closer to making demand responsiveness a reality today than before our troubles began. Yet everyone agrees that demand responsiveness is necessary to control prices, especially during periods of tight supply. Common sense would indicate that other regions contemplating a market approach should carefully consider whether they have meaningful demand-side approaches in place before they move forward.

Third, someone must be responsible for serving customers, and that responsibility must be well defined. I mentioned earlier that SMUD and other California municipalities never wavered from the obligation to serve their customers, and they planned accordingly. We can argue about whether our investor-owned utilities were relieved of the legal obligation to serve; it was certainly hinted at. Many expected that new Energy Service Providers would be climbing over each other fighting for IOU customers. At a minimum, the existing IOUs were not given clear direction about whether or not their obligation to serve remained in full force. This mistake simply cannot be repeated.

Fourth, it is important to take the time necessary to ensure the fundamental components of a workable market, like those cited above, are in place before proceeding with full-fledged competition. Progress should be made in measured steps. In California, we turned operation of the utilities and wholesale markets inside out in less than eighteen (18) months. In retrospect, it should not come as a surprise that it did not work precisely as planned. We have spent the last three (3) years in a vain attempt to correct flaws in the system exposed by market participants. We learned that regulators and market makers couldn’t keep pace with power marketers and brokers when it comes to closing loopholes in system design. Given the importance of the electricity industry to the well being of the nation, the final lesson to be

learned from California is that a measured pace of change may be preferable to an overnight overhaul.

“California Only” Solutions Will Be Band-Aids

There are immediate steps that can be taken in California, without federal assistance. However, these will merely be band-aids until regional solutions are forthcoming.

First, California must take all practicable measures to lessen demand for the coming summers. The most promising means to ensure reliability and mitigate high prices in the immediate future is to reduce the demand for electricity. Frankly, it is our only option, because generation planned to come on line in the next two years will allow California to keep up with demand growth, and little more. At SMUD, this week our elected Board will consider augmenting our demand-management efforts, including a more flexible and aggressive air conditioning cycling program that allow us to cut demand from our summer peak usage. We are also discussing how our largest industrial and commercial customers can change manufacturing process and work schedules to allow energy conservation during peak periods. In the very near term, demand side efforts such as these hold the most promise of reducing the threat of outages due to insufficient supply, as well as mitigating price spikes during periods of high usage.

Second, we must overcome the NIMBY (Not in My Back Yard) and NOPE (Not on Planet Earth) syndromes so that both generation and transmission can be built. I am hopeful this can be accomplished without abandoning environmental goals. New generation facilities have much smaller footprints than old units currently in place. Physically they are much smaller. They are more efficient, and their affect on air quality is much less than existing units that they would replace. New generating units would not only bring more supply to electricity markets, they would also improve air quality, and their relative efficiency would lessen demands on natural gas supply caused by older, less efficient units.

Transmission system improvements may be more difficult, but are no less necessary. The current transmission system was built to be part of a vertically integrated utility run as a cohesive whole. It was not built to support a disaggregated competitive industry, a so-called “interstate highway” approach to transmission access and competition. Not only is more transmission necessary to ensure reliability, but it is also necessary to ensure suppliers cannot exercise market power, or charge rates above competitive levels for sustained periods, because inadequate transmission limits access to supplies from competitors in localized areas.

One factor overlooked when examining siting reforms is that fellow competitors are often the most vocal opponents of siting new generation or transmission projects. A new generator may cut into profits of existing facilities, and will therefore be ardently opposed. Likewise, a new transmission line can reduce the monopoly power a generator has on serving customers in a constrained area of the grid, and therefore will also be opposed. We have seen both examples in California. It is simply not fair or accurate to lay frustrations of siting delays solely at the feet of environmentalists or intransigent residents.

Third, we must stabilize wholesale rates. As has been much publicized, suppliers and buyers, with the help of the State of California, are currently in the process of attempting to negotiate long-term contracts. If successful, these contracts have the promise of being able to avoid immediate rate shock for California consumers by locking in lower-than-spot-market prices through contracts with longer terms. I would caution, however, that long-term contracts and low prices for electricity are not necessarily synonymous.

Long-term contracts for electricity can ensure stable prices, but they cannot ensure low prices. In fact, the ability to enter into long-term contracts at reasonable rates is predicated on functioning short-term wholesale markets. One cannot be accomplished without the other. You can be sure that a supplier will only enter into a contract if it believes the return on the contract will be favorable as compared with spot market outcomes for the length of the contract. I cannot emphasize strongly enough that long-term contracts are not a substitute for properly functioning wholesale energy markets. They are a merely a “deodorant” to mask dramatic retail rate hikes.

REGIONAL AND NATIONAL SOLUTIONS ARE ESSENTIAL

While California has received the bulk of the attention, it is merely the “canary in the coal mine.” California has its own unique set of problems, but California may be the first indicator of a broader national energy crisis. As your hearing indicates, California market problems have already contributed to high prices and economic dislocation in the rest of the West. Other energy markets, such as those in New

York, appear to be on the brink of supply inadequacy and price volatility, perhaps this coming summer. Thus, the energy crisis is a federal concern. Moreover, some things, such as regulation of wholesale energy markets, are exclusively federal. Here are things the federal government can do.

An Interim Regional Price Cap

First, and for the shorter term, the federal government, through FERC or Congress if necessary, can stabilize markets in the West with an interim regional price cap.

A regional price cap is necessary to stabilize market conditions and allow time for generation and transmission investment, and market improvements, to bear fruit. Today, prices in wholesale markets are persistently at levels that are 3-5 times what retail customers are used to paying for energy. A crisis mentality has developed, and this mentality does not allow constructive discussion on meaningful market reforms. SMUD is concerned that if prices don't stabilize, political leaders in the West will simply end the move to competitive markets. We need help from leaders in Washington, D.C. to implement a regional approach to bring order to wholesale markets.

SMUD would be the first to admit that price caps are not an ideal solution. Managing competitive markets is exceedingly difficult. However, we must face facts; the alternative is run away high prices for a significant period of time. While additional generation is planned, only a small percentage will come on line this year. There continue to be barriers to entry for new supply and transmission. Indeed, the entire planning process for the Western United States has eroded due to competitive pressures. Suppliers are much less willing to share information regarding planned generation that they regard as commercially sensitive, as compared to the close voluntary coordination that characterized the regulated industry. Meanwhile, demand continues to grow at a considerable rate.

Transmission additions are also needed, not only in regional transmission corridors that have been identified as bottlenecks, but also in highly populated areas to deliver the electricity to consumers. Even if permitting and related concerns were solved tomorrow, it will literally take years to build the necessary transmission. Until then, the ability of new supply to get to consumers will be thwarted.

Finally, we have learned that the ability of the consumer to say "no" to high prices is a prerequisite to a functioning competitive market. Facilitating demand responsiveness will take federal investment in technologies such as real-time metering and pricing, as well as changes in consumer behavior to become more attuned to when energy is consumed. These three things, new supply, new transmission, and demand responsiveness, are necessary for workably competitive markets. Yet they are not on the near-term horizon. The consequences of allowing unfettered price levels without meaningful competitive discipline are unconscionable consumer hardship, and economic dislocation to small and large consumers alike.

There are valid objections to price caps. For example, it is argued that caps will inhibit new supply, or will not fully compensate suppliers. SMUD believes a price cap can be fashioned to address this objection by allowing exemptions for certain higher priced suppliers that are necessary for reliability, and by implementing a flexible cap that allows for changes in input prices, such as increases and decreases in the price of natural gas.

Further, the cap can be designed so that marginal costs of new efficient units fall well below the cap, thus providing additional incentives for new generation to replace old. SMUD has advocated such a price cap before the Federal Energy Regulatory Commission. A more detailed description of the SMUD proposal is attached to my remarks.*

Again, remedies such as price caps are not the ideal solution. However, we are long past ideal solutions. Interim price caps can be made consistent with the goal of continuing to move the industry forward on the path toward real competition, while ameliorating the certain consumer hardship that will be felt if no action is taken and prices remain at record high levels.

A New Look at Policing Market Behavior and Identifying Market Power

Competitive markets still need policing. For the past decade, the electric utility industry, at the urging of regulators, has developed increasingly complex markets. With a market the size of California, tens of millions of dollars are now won or lost in hourly trading. A billion dollars can change hands in a week when market participants exploit market rules during periods of tight supply.

*The proposal has been retained in committee files.

Complex markets require active monitoring and a vigilant policing. The old regulatory structure of months-long proceedings followed by after-the-fact refunds is not well suited for the new market. Traditional measures of market power may not suffice to protect consumers from the exercise of market power in product markets that were never contemplated as part of integrated utility operation.

Markets must be examined for the potential exercise of market power before they are implemented. FERC and other regulators must have the expert staff necessary to monitor energy markets and identify abuses, and regulators must have the authority to impose penalties if anticompetitive practices are uncovered. These reforms may or may not require changes to current law, but they certainly require increased attention from responsible regulators. Competitive markets cannot be relied upon to police themselves.

Reform the Existing Hydroelectric Licensing Process

Hydropower is critical to the entire West. SMUD strongly supports the efforts of the Committee to streamline the licensing process for hydroelectric facilities. SMUD recommends, at a minimum, the following legislative reforms in the relicensing process to ensure protection of existing, reasonably priced hydroelectric generating resources.

First, federal and state agencies should adopt least cost alternatives to meet environmental objectives identified in relicensing. Recognizing the value of existing hydro resources, federal and state agencies should avoid, where possible, imposing operating conditions through relicensing that would result in reductions of capacity. Second, environmental review of federal and state agencies under various statutory authorities should be coordinated and streamlined. Third, there should be a statutory requirement that all license conditions be supported by sound science and subject to appropriate administrative review.

National Energy Policy Emphasizing Energy Efficiency, Diversity, and Supply

There is a desperate need for a national energy policy. The nation has enjoyed a long period of relative energy surplus. During that period, we lost focus on investment in energy efficiency, conservation, and new supply technologies. SMUD is a leader in this area, investing considerably more than the national average. Yet, even at SMUD the fear of competitive pressures in California resulted in reductions in the level of funding for these activities. Aggressive financing programs for efficient appliances have been scaled back. Appliance standards have stagnated while technologies are available to improve energy efficiency. While high market prices have allowed certain existing renewable technologies such as wind energy to look more competitive, investment in other technologies such as fuel cells and solar has lagged.

Federal energy policy must provide incentives for investment in energy efficiency and new supply. We are losing fuel diversity. In California and elsewhere, natural gas is virtually the only fuel choice for new generation. As we saw in California, electricity prices have become dependent on the price of one commodity, natural gas. The lack of fuel diversity also jeopardizes reliability due to an over dependence on the delivery of natural gas to fuel electric generators. Right now in California, there are threats of disruption of gas supply to electric generators, due to a lack of pipeline capacity, or to the inability of the utility to buy enough gas to keep pipelines full. Electric generators are near the front of the line when gas curtailments are necessary, which means the electric supply shortage will be exacerbated.

These are matters of national concern. Scattered state or local programs cannot generate enough momentum to move new technologies forward, or to make significant strides in energy efficiency. A cohesive national energy policy is the best way to make meaningful improvements in these areas.

CONCLUSIONS

California's energy crisis has already caused significant economic dislocation in California, and has affected the entire Western region. Certain solutions are within California's grasp and responsibility. Long-term and more effective remedies require Federal action. In the short-term, SMUD advocates adoption of a regional price cap on an interim basis in order to stabilize regional wholesale markets. A regional price cap will provide the breathing room necessary in order for new generation and transmission to come on-line, so that the goal of a workably competitive market can be realized. In the longer-term, Congress can use the attention generated by the current crisis in California to highlight the need for a national energy policy, with increased emphasis on energy efficiency, conservation, and development of alternative energy sources to ensure greater fuel diversity.

If we take the opportunity to learn from mistakes made in California, we can emerge from the current crisis in a stronger position than when we entered.

The CHAIRMAN. Thank you.

Mr. Tom Karier. We look forward to your statement, and he comes as council member of the Northwest Power Planning Council, Spokane, Washington, and I would encourage you to add any reference to what Canada may provide, assuming the price is right, BC Power, specifically.

**STATEMENT OF DR. TOM KARIER, COUNCIL MEMBER,
NORTHWEST POWER PLANNING COUNCIL, SPOKANE, WA**

Dr. KARIER. Thank you, Mr. Chairman, members of the committee. I am testifying today on behalf of the Northwest Power Planning Council. My name is Tom Karier, and I am one of two Washington members on the council appointed by Governor Gary Locke. I also chair the council's Power Committee. The council is an agency of the States of Idaho, Montana, Oregon, and Washington, and under the Northwest Power Act of 1980 the council conducts long-range electric planning and analysis. We also prepare a program to protect, mitigate, and enhance fish and wildlife for the Columbia River Basin that have been affected by hydropower dams.

Clearly, what started out as a California crisis has quickly expanded into the entire West Coast, and I know we have a very distinguished number of panel members from the Northwest who will address the specifics, but last year the council reviewed the West Coast electricity supply and high market prices at the request of Northwest Governors and identified the key events that were contributing to the crisis, many of which have been mentioned in more detail, but obviously high on the list was the California electricity restructuring.

Second was the lack of new plants and new conservation and renewable resources. We also had below-average rainfall and snow pack in 2000. There is the price of natural gas rising, and clearly the unplanned and scheduled maintenance of a large amount of capacity in California.

Currently, we are most concerned about the present conditions of the Federal Columbia River power system, a system, as you know, largely fueled by water. Precipitation so far this winter is 63 percent of normal, and Columbia River run-off between January and July is predicted to be only 68 percent of normal, and the elevation of Lake Roosevelt in my State, behind Grand Coulee Dam, is the lowest in 25 years. The weather forecast, in a word, is dry. Without normal or above-normal rainfall for the remainder of the winter and spring, our power supply will be stressed even more than it is already.

This winter, poor hydro conditions in the region, combined with California's supply crisis, are exacerbating the imbalance between supply and demand and causing significant hardship. The power crisis is affecting Northwest utilities and ratepayers as well as those in California, and particularly businesses and industries. Northwest utilities are raising their rates dramatically in some cases. 30 to 60 percent increases are not uncommon. Businesses and industries are shutting down or cutting back. Aluminum smelters can make more money selling their power back to Bonneville than selling aluminum.

I would like to comment briefly on our recommendations for alleviating the problem. First, we need to treat electricity like the commodity it has become and encourage market mechanisms that manage risk of exposure to high prices. Certainly the long-term contracts would be part of that.

Second, we need to evaluate the shortage of generating plants in the competitive marketplace. Can we rely on the market to provide sufficient capacity to keep the power system reliable? The council plans to investigate this question.

Third, we need to develop a robust market on the demand side of the meter. We see great opportunities in price-responsive demand management, such as reducing or shifting loads during periods of high prices.

Fourth, California obviously needs to fix its deregulation law. This attempt, in our view, at retail competition was a failure and needs to be corrected.

Fifth, we need better information on which to base regional power decisions. Better, more timely information about loads and resources will improve decisionmaking and reduce the sense of panic in the market.

Sixth, Western utilities need a workable procedure for dealing with emergencies when they develop. I am pleased to say that the Power Planning Council, along with Northwest utilities, Western Systems Coordinating Council, Bonneville and others, have been working on creating an emergency response team since last December that has functioned very well in the last few weeks.

Seventh, while there is no consensus among Northwest Governors on the need for price caps, my Governor, Gary Locke, supports interim price caps as a means of cooling the superheated power market. We think that this offers the best chance of avoiding even more serious problems in the near future.

We do not support the Department of Energy's emergency order to sell to California. There is a significant credit risk in selling to California, and correcting that problem would do much to improve the trade between our two regions. The Northwest also needs to protect its ability to meet future loads.

Finally, we all need to continue our efforts to use energy more efficiently. From our studies in the Northwest, conservation is cost-effective, and it works.

In summary, the council recommendations amount to a call for the West to fix their current problems while investing in the future. We must ensure that utilities and consumers remain financially solvent until new sources of generation and demand reduction moderate prices.

The CHAIRMAN. I would ask you to wind up your statement, please.

Dr. KARIER. Thank you, Mr. Chairman. That does complete my testimony.

[The prepared statement of Dr. Karier follows:]

PREPARED STATEMENT OF DR. TOM KARIER, COUNCIL MEMBER, NORTHWEST POWER
PLANNING COUNCIL, SPOKANE, WA

INTRODUCTION

Good morning, Chairman Murkowski and members of the Committee, and thank you for the opportunity to testify today on behalf of the Northwest Power Planning Council. My name is Tom Karier and I am one of Washington State Governor Gary Locke's two appointees to the Northwest Power Planning Council.

The Council is an agency of the states of Idaho, Montana, Oregon and Washington. Under the Northwest Power Act of 1980, the Council conducts long-range electric energy planning and analysis, and also prepares a program to protect, mitigate and enhance fish and wildlife of the Columbia River Basin that have been affected by hydropower dams.

In my testimony, I will briefly recount the results of the Council's October 2000 analysis of the reasons behind the high electricity prices in the West, discuss the current condition of the Federal Columbia River Power System, which provides about 40 percent of the Pacific Northwest region's electricity, describe some of the impacts of the current crisis on Northwest electric utilities and their customers, and offer our recommendations for how to address the problem.

To begin, we believe six key events are contributing to the current power crisis in the West. These are:

1. The wholesale power market created by California's electricity restructuring is dysfunctional, needs fixing and has affected other western states. The remedies ordered by the Federal Energy Regulatory Commission have yet to have a significant effect.

2. Construction of new power plants and new conservation and renewable resources during the last decade did not keep pace with growing demand for electricity. In the Northwest, for example, demand for electricity has grown 24 percent in the past decade while generating capacity has grown by only 4 percent. When California is factored in, the gap between demand and supply is even greater.

3. Below-average rainfall and snowpack in 2000 contributed to poor hydropower conditions in the Northwest. Snowpack runoff is predicted to be 68 percent of normal this year; the elevation of Lake Roosevelt behind Grand Coulee Dam is the lowest in 25 years.

4. The price of natural gas, the fuel of choice for thermal power plants in the Northwest, had doubled last summer and now is over three times the price it was last year at this time.

5. Some California power plants had to shut down for unplanned or scheduled maintenance or because they violated air quality regulations.

6. The loss of flexibility in the operation of the hydroelectric system due to Endangered Species Act requirements has derated the system by more than 1,000 megawatts.

I will explain these in more detail later in my testimony, but for now let me say that each of these events would cause problems in isolation, but in combination they have created "The Perfect Storm" for western utilities and their customers. Of these key events, we are most concerned at the moment about the outlook for hydropower generation.

In a normal year, the volume of the Columbia River runoff between January and July is 106 million acre feet, measured at The Dalles Dam. In early January, the forecast for January through July 2001 was 80 million acre feet, or 75 percent of normal. Last week, the forecast was revised downward to 72 million acre feet, or just 68 percent of normal. By way of comparison, the worst January-July period on record was 50 percent of normal.

Obviously, this is a dry winter in most of the Northwest. Precipitation in the Columbia River Basin so far is 63 percent of normal, and the weather forecast for the next two weeks is, in a word, dry. Reservoirs behind dams in the Columbia River system currently are about 49 percent full; typically in January, the reservoirs would be about 65 percent full.

As for hydropower generation, in a normal year the Federal Columbia River Power System will produce about 15,500 average megawatts. This year, with current predictions of runoff, the system is expected to produce much less. To put that in perspective, given the driest conditions on record, which are 50 percent of normal, the current system would produce about 11,500 average megawatts. We may be dangerously close to that this year.

We can hope for above-average precipitation for the remainder of the winter and no unusually cold weather that would boost electricity consumption. But clearly, the outlook is not good.

Meanwhile, many electric utilities in the Northwest recently announced substantial rate increases in response to high market prices.¹ In fact, several utilities have raised rates to their retail customers as much or more than utilities in California. Businesses and industries that use large amounts of power are suffering. To better understand the impacts, the Council recently convened a panel representing four Northwest utilities that have been affected differently by the current crisis.

Briefly, here is what we learned:

- Tacoma Public Utilities implemented a 50-percent rate surcharge, which amounts to a 43-percent increase to residential customers and 75 percent to industrial customers. Dry weather is impacting Tacoma's hydropower operations, forcing the utility to make purchases in the spot market. Tacoma spent \$60 million for power in December and is facing continuing high prices with cash reserves of only \$130 million. The utility has secured diesel generators with 50 megawatts of capacity, called for conservation, imposed the rate surcharge, and is also planning to take on \$100 million in debt to get through the rest of the winter.
- Tillamook Public Utility District in rural western Oregon is facing market exposure of \$20 million, while the utility's total annual budget is about \$11 million. Tillamook joined with several other rural utilities to buy a portion of its load on the market several years ago, and today the utilities' combined power bill has ballooned to \$117 million. While Tillamook recently announced a new agreement with Bonneville, Tillamook has asked its large customers to discuss cutting back electricity consumption. But these customers have orders to fill and are reluctant to jeopardize their production.
- Puget Sound Energy of Bellevue, an investor-owned utility with some 900,000 customers, reported it is in a precarious stage of load/resource balance. Rising prices for natural gas are squeezing the utility's finances while Puget is operating with a five-year residential rate freeze. The utility may ask the state Utilities and Transportation Commission for emergency rate relief. High prices have caused some of Puget's industrial customers who are on market-indexed rates to shut down or curtail production.
- Clark Public Utilities, which serves about 130,000 customers in the Portland suburb of Vancouver, Washington, recently raised its rates 20 percent to meet the increased price of natural gas and power from its generating plant, which supplies about half its load. Currently, the remainder comes from investor-owned utilities under long-term contracts, but those expire in July and Clark anticipates another rate increase in the fall when it goes back on the Bonneville system.
- Last week the Bonneville Power Administration announced that a vastly increased demand for its products, beginning in October, will force the agency to make significant market purchases to augment the federal system. As a result, Bonneville is proposing an average 60-percent rate increase over the next five-year rate period, beginning October 1, 2001. Bonneville acknowledged that the first year could be significantly higher than 60 percent, and some Bonneville customers are anticipating rates as much as 100 percent higher. Given the current market situation and the projected spring runoff, Bonneville believes it needs revenues that average annually about \$1.3 billion more than its estimates made just last May.

There is other bad news, as well. Idaho Power Company recently announced its power purchases are \$121 million above expectations and may require a 24-percent rate increase. Utah Power & Light is proposing a 19-percent rate increase. Moody's Investor Service recently changed the credit rating of Seattle City Light to negative because of concerns that low water levels will impact the utility's hydropower generation and force more power purchases on the spot market.

Industries are hurting, too. Recent news stories report on smelters, paper mills, chemical makers and mines in the Northwest that either are shutting down or curtailing production in response to high electricity prices. These include six aluminum smelters in Oregon, Washington and Montana, and also other major industries in Tacoma, Seattle, Bellingham, Butte, Portland, and elsewhere. Ironically, some can make more money selling their contracted power back to the supplier than they can by operating. In turn, this allows the supplier to avoid purchasing more expensive power on the market.

Not all the news is bad, however. Bonneville has been able to exchange surplus power with California on a two-for-one basis, and California has already returned

¹Market prices for the last year at the Mid-Columbia trading hub are displayed in the figure attached as the last page of this document.

significant amounts of that power. This has helped Bonneville avoid running the hydrosystem harder to meet its load. However, other utilities in the Northwest, which have been ordered to sell surplus power to California, remain concerned that they will not be paid for their power.

Mr. Chairman, as I noted earlier in my testimony, there are multiple reasons for the current power crisis on the West Coast. Two years ago, the Northwest Power Planning Council initiated a study of the adequacy of the Northwest's power supply. This study was motivated by the observation that while the region had enjoyed several years of robust economic growth and, consequently growth in the demand for electricity, there had been very little in the way of new generation development. At the same time, efforts to improve the efficiency of electricity use in the region had been reduced dramatically because of the uncertainty of utility restructuring. This raised the concern that under conditions of high stress, the system might not be able to fully meet the region's power needs to serve load and to maintain the reserves essential to a reliable system. Conditions of high stress involve combinations of high weather-driven loads, poor hydropower conditions and forced outages of thermal and hydropower generating units.

The study, which we completed in early 2000, concluded that:

- There is an increasing possibility of power supply problems over each of the next few winters (December, January, February), reaching a probability of 24 percent by 2003. This takes into account both regional resources and the availability of imports. The level and duration of the possible shortfalls could be relatively small—a few hundred megawatts for a few hours—or quite large—a few thousand megawatts for extended periods.
- The region would need the equivalent of 3,000 megawatts of new capacity to reduce the probability to a more acceptable 5-percent level. That new capacity should take the form of new generation, conservation and economic load management, i.e., reductions or shifts in consumer loads that make economic sense for the consumer and the power system.
- It was unlikely that market prices would be sufficient to stimulate the development of sufficient new generation in that time frame. This meant that in the near-term, an even higher priority needed to be placed on developing economic load management opportunities.

While this study generated a good deal of interest, it is difficult for people to get too excited about probabilities generated by arcane computer models. However, last summer, and again this winter, developments in the power system captured the attention of the industry and the public. Those developments resulted in unprecedented high prices in Western power markets, including the Northwest. Average prices for power were well over \$200 per megawatt-hour, occasionally reached \$700 per megawatt-hour or more, and peaked on December 11 at \$5,000 per megawatt-hour on the Mid-Columbia trading hub. At the low end, that is more than 10 times the previous high, and at the high end more than 100 times. In short, prices are phenomenally higher than in past years.

The Council believes that high spot-market prices are a tangible manifestation of the fundamental problems identified in the Council's power supply adequacy study of last winter. That is, the prices are an indicator of current scarcity. Last summer, the system, which already was facing tight supplies, was further stressed by combinations of unusually high loads, poor hydropower conditions and forced outages of thermal units. There is little in the way of price-responsive demand to mitigate these prices. Those who had available supply were able to ask for and receive high prices. This combination of factors is precisely what led to the power supply adequacy problems identified in the Council's study. These factors apply not only to the Northwest but also to the entire Western Interconnection. There are some additional factors related to the design of the California electricity market, but they should not obscure the basic underlying problem. Absent some action, the next similar event could result in not only high prices but also a failure of the Northwest system to meet loads.

In the following paragraphs I will summarize the evidence regarding the factors affecting Western market prices, focusing in some detail on the last week of June 2000, the period in which the highest prices of the summer were observed. While prices at times were higher in December, we believe the reasons for the high prices last summer and so far this winter are the same. I will also offer our recommendations for actions to mitigate future price excursions and potential power supply adequacy problems.

DEMAND GROWTH WITHOUT SIMILAR GROWTH IN SUPPLY

As noted above, the Council believes the high prices are symptomatic of an overall tightening of supply, exacerbated by a number of factors. Some of these factors are physical and economic, others are related to the relative immaturity of the competitive electricity market and the uncertainties involved in the transition from a regulated structure. The physical and economic factors include unusually high weather-driven demands throughout the West, an unusual pattern of hydropower generation, a high level of planned and forced outages of thermal generating units, and high natural gas prices. The factors related to market immaturity and transitional uncertainties include the lack of a demand-side price response in the market, inadequate utilization of risk mitigation strategies, insufficient investment in new generation, and other factors related to the design and operation of the California market.

Between 1995 and 1999, peak loads in the Western Systems Coordinating Council area increased by nearly 12,000 megawatts, or by about 10 percent. The increase would have been even more if 1999 hadn't been a relatively mild weather year. Generating capacity available during peak load months did not keep pace with peak load growth, increasing only 4,600 megawatts.

When growth in demand outpaces growth in power resources, the result is a narrowing of reserve margins. This implies more efficient utilization of existing capacity and was an anticipated benefit of moving to a competitive generation market. However, if it proceeds to the point of putting reliability at risk and destabilizing prices, it is a problem. The period of the highest prices in the summer of 2000 coincided with a period in which loads in the Northwest, California and the Desert Southwest were at high levels as a result of high temperatures throughout the West. In the Northwest last June, peak loads were approximately 3,400 megawatts greater than one year earlier while in California loads were approximately 1,400 megawatts higher. As we moved into the winter, high heating loads, poor hydro conditions and an extraordinary amount of generating capacity out of service in California drove prices even higher.

LACK OF NEW ENERGY CONSERVATION

We also know that efforts to improve the efficiency of electricity use, that is, conservation, have fallen off considerably in recent years. This is largely the result of the uncertainty created by the restructuring of the electricity industry. Utilities, which were the primary vehicle for conservation development, generally reduced their efforts because of concerns about creating potentially stranded investment. They also expressed concerns about the need to raise rates to cover conservation costs and the revenues lost as a result of conservation. Council staff has estimated that if the Northwest had maintained its level of investment in conservation at its 1995 level through the last three years of the decade, we would now be using the equivalent of the total output of a combined cycle combustion turbine less electricity. The average cost of saving that electricity is a fraction of the current market price of power.

UNUSUAL SNOWPACK AND RUNOFF

An unusual pattern of Columbia River runoff last summer also contributed to the power problem. While runoff was expected to be normal, in fact the spring runoff came somewhat earlier and higher than normal. By May and June, runoff and hydropower generation were less than normal. Hydropower generation in late June was approximately 6,000 megawatts less than the previous year. As I noted earlier, runoff this spring is expected to be far below normal.

THERMAL PLANT OUTAGES

Outages at thermal plants also contributed to the problems last summer. Maintenance at thermal plants frequently is planned for the May-June period when abundant hydropower typically is available. In addition, plants do break down, sometimes when it is least desirable to do so. We have attempted to identify Northwest thermal units that were either on planned outages or forced outage status during the last week of June. This was done by examining the generation data reported to the Western Systems Coordinating Council and supplemental data that was provided by Northwest generators. These combined data sets represent about 85 percent of the thermal capacity in the Northwest. From these data it appears that approximately 1,500 megawatts of capacity were out on a long-term basis, either planned or extended forced outages, and another 2,400 to 2,700 megawatts were on short-term forced outage status in late June, when temperatures—and power

prices—peaked. As noted earlier, power plant outages in California this winter have exacerbated an already tight supply picture.

RISING NATURAL GAS PRICES

Rising prices for natural gas, a primary fuel for thermal power plants, also contributed to the high power prices. Between the summer of 1998 and the summer of 2000, natural gas prices at Sumas on the Washington/British Columbia border increased from about \$1.50 per million Btu to \$3.30. Prices in Southern California increased over the same period from about \$2.40 to \$4.18. Prices moved substantially higher during late August and September. During mid-September, prices at Sumas were \$4.60 and prices in Southern California were over \$6.00, although the California prices were affected by a serious pipeline explosion. Prices have stayed approximately at those levels, or slightly higher, since then. Current prices at Sumas exceed \$6 per million Btu.

Depending on the gas-fired generating technology used, for every \$2 increase in natural gas prices the cost of generating electricity increases between \$15 per megawatt-hour and \$22 per megawatt-hour. However, the increase in natural gas prices, while contributing significantly to higher electricity prices, cannot come close to explaining the increase in peak electricity prices.

THE LACK OF A MARKET FOR DEMAND REDUCTION

Our analysis of the western market also disclosed a systemic problem associated with the immaturity of the competitive electricity market, which is the lack of a demand side to that market. Demand responsiveness to price is important to an efficiently operating market. Demand responsiveness is an essential mechanism to balance supply and demand. Without some degree of demand responsiveness, there is no check on the prices that can be charged when supplies are tight, except for artificial caps. This is particularly critical when supplies are stretched to their limits. Under those circumstances, a relatively small degree of price responsiveness can have a relatively large reducing effect on prices, and could also mean the difference between maintaining service and curtailing it.

Currently, at any given hour, the amount of electricity demand is virtually independent of wholesale price. This is because the vast majority of electricity consumers do not see market prices in anything approaching real time and, for the most part, have done little if any thinking about how they could reduce their demand if power were very expensive. The Council is not advocating retail access as a means of achieving price responsiveness. The states are making their decisions about when and how much to open their retail markets to competition. But developing price-responsive demand does not require passing real time market prices on to all consumers. It does mean, however, that those suppliers who see wholesale prices should act as intermediaries between the market and consumers to effect load reduction or shifting that is in the mutual economic interest of the consumer and the power system. We believe this will develop in time, and that the current high prices will help motivate that development. In the past several months several hundred megawatts of price responsive load reduction have been put under contract by Northwest utilities. However, given the tight supplies and high prices now affecting the market, the Council believes that continued effort should be devoted to encouraging and facilitating the demand side of the market.

THE CALIFORNIA EFFECT

Among the Western states, California's electricity industry is farthest down the restructuring path. California's path is, in many ways, quite different than most other examples. California created a market structure that is quite centralized and complex. For most of its life, the California market has yielded competitive power prices. However, under periods of stress, we believe that the sheer size of the California market, in combination with the characteristics of its structure and the incentives it creates, clearly have resulted in prices that are higher than they might be otherwise.

The problems associated with the California market have been the subject of intense scrutiny in recent months. We generally believe that the steps ordered by FERC to shift California investor-owned utilities out of reliance on a spot market for the majority of their supplies and into longer-term contracts for supply is the right direction. As you know, however, implementation of such steps is clouded by the potential insolvency of these utilities. Quick resolution of these problems is essential.

RECOMMENDATIONS

Mr. Chairman, based on our analysis of the West Coast market, we offer the following recommendations:

1. Encourage Greater Use of Risk Mitigation Mechanisms

One of the characteristics of a commodity market is the emergence of mechanisms to manage risk, and electricity is rapidly becoming a commodity market. These mechanisms include actual physical forward contracts for supply, futures contracts, financial hedging mechanisms, and so on. These mechanisms can limit exposure to high prices. At the same time, however, there is always the risk that they will prove more costly than the spot market. As noted earlier, we believe the limitations on forward contracting by California utilities was a contributing factor to the price extremes of this summer and fall.

We believe the same is true of other market participants in the Northwest and elsewhere. While opportunities to enter into forward contracts and other hedging arrangements have existed, it may be that the protracted period of low market prices for electricity lulled some market participants into believing they had no need for such mechanisms. The extreme volatility of the market has been revealed. We believe this will spur the development and use of risk mitigation tools. Every effort should be made to encourage their development and use.

Had more market participants been able to take steps to protect against risk, it is likely that the price volatility impacts would have been moderated. Forward contracting is also a vehicle by which new entrants in the generation market can limit their downside risk, thereby facilitating the development of new generation.

2. Monitor the Market for its Ability to Provide Sufficient Capacity and Fuel for Reliability Purposes

The Council's analysis of power supply adequacy indicated that market prices would not be sufficient to support the development of "merchant" power plants, which sell into the spot market exclusively, until 2004. Current prices have changed that situation. The Council has also done analyses looking at actual market prices over the past year to see if they would be sufficient for a new entrant to cover its variable operating costs and its fixed costs and earn a reasonable rate of return. Until last summer, the answer was "no."

Since then, however, given the electricity and gas prices experienced over the past year, the answer has become "yes." With higher prices, a couple of plants not considered in the Council's adequacy study have begun construction. In the Northwest, there are now 1,276 megawatts of capacity under construction that should come on line in 2001 through 2002. There are another 2,977 megawatts that already have site certificates, 1,291 megawatts of which we judge to be "active" projects, and another 3,060 megawatts that are in or have begun the siting process. The major factor that will determine how many of these plants go forward will be the developers' assessments of future market prices and the willingness of potential purchasers to enter into longer term contracts.

Almost all of these plants are natural-gas-fired combustion turbines, although the developer of a 24-megawatt wind farm in northeastern Oregon recently announced plans for a 300-megawatt expansion of that site. Nearly all of the proposed thermal plants are located within reasonable proximity to natural gas pipelines. There is a similar story to be told elsewhere in the West.

The degree of developer activity is encouraging. However, if we were to experience a few years of relatively warm, wet winters and cool summers, market prices probably would fall, and many of the active projects might become inactive. If followed by a dry spell and a hot summer or a cold winter, we would be up against the supply limits again. Similarly, we are concerned about this hydro-induced volatility on the market for development of new gas pipeline capacity. New pipeline capacity is needed to fuel most new generation. We must ensure that mechanisms in both electricity and gas markets can signal pipeline expansions when needed.

The question this possibility raises is whether we can rely on the market, and various risk-mitigation mechanisms, to provide sufficient capacity for reliability purposes. And if not, what are the options for ensuring that there is capacity and fuel available to ensure reliability and mitigate excessive price spikes. The Council intends to pursue this question.

3. Initiate Efforts to Develop the Demand Side of the Market

While the lead time for the development of new combined-cycle generation is relatively short, there will be a period during which the region and the West are vulnerable to further price spikes and possible reliability problems. Developing the demand side of the market has the potential for somewhat shorter lead times. Price-

responsive demand can help mitigate price spikes and potentially avert reliability problems.

The Northwest has a great deal of successful experience in increasing the efficiency of electricity end-use as a resource. The region needs to reinvigorate those efforts in light of the market prices we are experiencing. However, the region in particular needs to move aggressively to implement price-responsive demand management—reducing loads during periods of high prices or shifting the loads to periods of the day when prices are lower. The bad news is that this region has relatively little experience with these approaches. The good news is that there should be significant untapped potential.

As noted earlier, the Council is not advocating retail access as means of achieving price responsiveness. The states are making their decisions about when and how much to open their retail markets to competition. However, the Council believes that market-like mechanisms in which the consumer receives a significant part of the benefit will be most effective. Pilot programs were initiated last year in the region in which the serving utility and the load-reducing consumer share the cost savings of avoided power purchases (or the revenues from selling the freed-up power on the market). These programs appear to have been successful, although limited in scope. The greatest potential for such partnerships probably exists within industry and large commercial buildings. What can be done will vary from building to building and process to process. Nevertheless, if provided the incentive, the Council believes people will rise to the challenge. Creating these incentives should be a priority for the utilities of the region.

4. California Should Correct the Incentives in Its Market Structure That Contribute to Excessive Prices and Volatility

Quick implementation of the FERC's order for reforming the California market is essential.

5. Until the Market Stabilizes, Data for Monitoring and Evaluating the Performance of the Market Should Be Available on a Timely Basis

One thing we learned last summer was that it is difficult to obtain the data necessary to monitor and evaluate the performance of the market. Despite the fact that utilities in the Northwest were extremely cooperative, there was a delay of many weeks before the relevant data could be obtained. We understand the possible commercial sensitivity of this information. We believe, however, that there should be arrangements possible that both protect the commercial value of the information and make it possible for independent parties to evaluate market performance on a timely basis. Until the market has stabilized and the public has greater confidence in its operation, this should be a high priority for market participants and organizations like the Western Systems Coordinating Council, California authorities and regional transmission organizations as they are formed.

6. Electricity Emergency Processes and Procedures Need To Be in Place

The Council determined in its October report that getting the processes and procedures in place that would be used in the event of an actual supply emergency should be a priority. Until new generation comes on line and demand-side programs can be implemented, there is significant probability that our emergency readiness will be tested. Necessary elements include an inventory of the actions that could be taken, the trigger points for taking these actions, clear definition of roles and responsibilities, and a communications plan to inform the public. We are pleased that efforts to accomplish this were established—and successfully utilized—this winter involving the Pacific Northwest Utilities Conference Committee, the Northwest Power Pool, Bonneville, the Power Planning Council, the Northwest states, and the region's utilities.

7. Conserve Energy

We all can do our part by conserving energy. In recent months, electric utilities and the news media have bombarded us with energy-saving ideas—insulate your attic, caulk around your windows, install a programmable thermostat and replace incandescent light bulbs with compact fluorescents. Each of these will save energy. On a larger scale, the Power Planning Council, Bonneville and others have developed an exhaustive list of more than 1,000 energy-saving techniques and applications that could be implemented in homes, businesses and industries. The list was developed by an association of energy conservation experts known as the Regional Technical Forum and will be utilized by Bonneville to calculate energy savings under the conservation discount proposed for the 2002-2006 rate period. The measures and information about their energy savings are posted on the Council's website, along with their estimated cost.

In summary, our recommendations amount to a call for the West to fix the current problems while investing in the future. We must ensure that utilities and consumers remain financially solvent until new sources of generation and demand reduction moderate prices. Perhaps the only good thing that can be said for the current crisis is that it offers the West an opportunity to think carefully about our future power supplies and take steps to ensure adequate investments in conservation, renewable energy and new base-load generation. These developments would be aided by a coordinated effort to streamline siting processes throughout the West so that we retain the essential environmental and community safeguards while avoiding unnecessary delays.

Mr. Chairman, that completes my testimony, and I would be pleased to answer any questions.

The CHAIRMAN. Thank you very much.

Mr. John Gale. Mr. Gale comes to us as general manager of pricing and regulatory services of Idaho Power in Boise, Idaho.

**STATEMENT OF JOHN R. GALE, GENERAL MANAGER, PRICING
AND REGULATORY SERVICES, IDAHO POWER COMPANY,
BOISE, ID**

Mr. GALE. Thank you, Mr. Chairman and Senators. I am speaking today from the Idaho Power Company's perspective, a small utility operating in the Pacific Northwest. Idaho Power is generally known for two things. It is predominantly hydroelectric, probably relying the most on hydro facilities of any investor-owned utility, and consequently it supplies service to its retail customers at the lowest rates of all investor-owned utilities.

Hydro is a mixed blessing, however. Hydro availability for production varies from season to season and year to year. Managing the supply situation is a challenge for a hydroelectric company. We try to address this challenge through adding to our portfolio thermal plants and purchasing from the Northwest market. The Northwest market has proven to be a very good tool for both public and private utilities for a number of years, going back as many as 20. It helps the utilities in the Northwest optimize their resources and provides a market for them to sell into when they are in surplus situations.

Another way we try to manage our power supply situation is, we have a rate-making mechanism within the State where we flow through both the benefits and the cost of supplying power to our customers. This benefit is flowed through on a sharing basis so the shareholders of the company are responsible for a portion, but we are able to let our customers see the price as costs are imposed upon us.

We see this as an advantage in our rate-making process over that in California, because our customers are able to see the price, act on the price, make business decisions, decide crops and so forth, based upon their power supply cost, and it also provides a good signal for conservation efforts that they would want to make.

Another advantage of having the rate-making mechanism is that our creditors also know that we have that behind us, and as they sell power to us, they know that they stand to be paid.

A last comment on the mechanism is the sharing mechanism between the customers and the company provides an economic alignment so all decisions about power supply are made for everyone's best interest.

I talked about earlier this year. It could be the biggest challenge for power supply in the Northwest. It is a bad situation, and we are looking at a dry year with high prices. For my company we are at 60 percent snow pack expected stream flows in our Snake River Basin.

As far as prices are concerned, looking for the balance of year of prices we could obtain today, we are looking at \$350 a megawatt hour for the balance of 2001. That is 35 cents a kilowatt hour, to put it in a retail customer's perspective, and we typically sell at 3 to 6 cents an hour. Excuse me, 3 to 6 cents per kilowatt hour.

What does that mean? As Senator Craig said earlier today, we are already looking at a 24-percent increase going into the spring. That will only get worse with the drier year, and could easily double. The forecast, as we have said, is dry, and typically in the Northwest once you get into a dry year you stay in a dry year. Assumptions about returning to normal have not been proven historically.

That leads me to some observations about California, and specifically to the executive orders from the Secretary of Energy. What is distasteful for other Northwest utilities is that it prioritizes California in the market above other States. We are in the same market. We are facing the same problems and the same high prices.

A second problem with the executive order is that it makes it uncertain on how to treat reservoirs as far as the drawdowns to produce power. The reservoirs become our energy source for next summer.

Lastly, as we approach spring we will hit a time when we should have generation surplus. We would love to sell to California at that time, love to sell into the best market we possibly could. The reason is, at that time that is our chance to offset our high cost we have incurred all winter, a chance to reduce our customers' rates.

I will conclude on that remark.

[The prepared statement of Mr. Gale follows:]

PREPARED STATEMENT OF JOHN R. GALE, GENERAL MANAGER, PRICING AND REGULATORY SERVICES, IDAHO POWER COMPANY, BOISE, ID

Mr. Chairman and Members of the Committee, thank you for the opportunity to address the Committee today on behalf of the Idaho Power Company. Idaho Power's comments are based upon our perspective as a hydro-based, investor-owned utility operating in the WSCC grid and serving retail customers in Idaho, Oregon, and Nevada. We intend to provide a northwest regional perspective on the California energy situation and its impact to other states operating in the west. I am John R. Gale, General Manager of Pricing and Regulatory Services for the Idaho Power Company.

BACKGROUND

The Idaho Power Company, established in 1916, is an investor-owned electric utility currently serving more than 380,000 customers in a 20,000 square-mile area including parts of southern Idaho, eastern Oregon, and northern Nevada.

The Company presently operates seventeen hydroelectric plants, including the 1,167-megawatt Hells Canyon Project and shares ownership in three coal-fired plants located in Oregon, Nevada, and Wyoming. During a normal water year, approximately 60% of the total power generated by the Company is hydroelectric. This substantial commitment to and investment in renewable hydroelectric resources allows Idaho Power to provide its customers with electricity at some of the lowest rates in the nation. In fact, among investor-owned utilities, the Company has the lowest combined rates (residential, commercial, and industrial) in the country.

CHARACTERISTICS OF THE CALIFORNIA MARKET AT THE BEGINNING OF DEREGULATION

At the outset of electric industry restructuring in California, wholesale prices were well below retail prices. Excellent water conditions in the Pacific Northwest further enhanced a substantial regional surplus. At that time, California was dependent on imports for approximately 20% of the load.

Demand for electricity was growing by 1,500 MW per year, however new generating capacity and meaningful transmission were lagging behind. Increased demands without additional generation within the state or new transmission pathways for importing generation into the state led to California's steadily declining reserve margins.

THE NEW MARKET STRUCTURE PROVED TO BE FLAWED

As part of the restructuring, the California investor-owned utilities divested of up to 50% of their generation without "buy-back" provisions from the new owners. In addition, the new market formed without the stabilizing effect of long-term energy contracts. Consequently, 85% of the retail supply was necessarily acquired from the spot market. Residential retail rates were reduced by 10% and all rates were frozen through 2002, or until stranded generation costs could be paid.

The expectation was that wholesale prices would continue to stay below the retail prices with the net difference directed towards paying off the above-market (or stranded) utility generation costs. What was not contemplated, however, was the possibility that wholesale prices for purchased power could increase in magnitudes and for sustained time periods threatening the very structure of the new California market.

"California Travails, A Chronology of Events in California's Energy Crisis", a draft document prepared by the Edison Electric Institute is included for reference purposes as Attachment 1* to these comments.

WHAT HAPPENED IN 2000?

A combination of factors led to demand overtaking supply during 2000. Weather became more severe in the west with both a hotter summer and a colder winter. In addition, the Pacific Northwest was confronted with the first low hydro year since 1992. Excessive thermal plant outages combined with decreased hydro generation capabilities further reduced regional supply. To make matters worse, natural gas prices hit record highs at \$60 per MMBtu. Since most new electric generation utilizes natural gas as its fuel, the two energy prices began to move in parallel. Electric prices also hit record highs reading as much as \$5,000 per MWh and averaging \$300 per MWh for the year.

Attachment 2 and Attachment 3 are graphs indicating fourth quarter 2000 market price changes for natural gas and electricity respectively.

THE CALIFORNIA ELECTRIC SYSTEM GETS STRETCHED TO THE BREAKING POINT

In order to continue serving their respective retail customers, the California utilities continued buying power at expensive spot market rates although their retail prices were fixed. After eight months the combined debt reached \$12 billion. The debt, in turn, caused counter-parties to be concerned about the ability of the California utilities to pay for their purchased power. As suppliers became reluctant to sell into the California market, the Secretary of Energy began to issue executive orders applicable to most western generators and marketers requiring sales to continue.

In early January 2001, the CPUC authorized some interim rate relief to the utilities through increased retail rates. Ultimately the increased rates proved insufficient as the utilities' stock prices plunged, their credit rating devalued, and bankruptcy looms.

IS THERE A SOLUTION?

Idaho Power realizes that no state enjoys hearing advice from other states on how to fix its problems. Our comments are given as observations from an entity somewhat removed from the immediate crisis. In our view, there appears to be certain actions that, if taken, could begin addressing some of the structural problems in the California market.

First, it is our belief that showing customers the true cost of electric energy will help to reduce the demand for electricity. When retail rates accurately reflect cost, then customers can make appropriate economic decisions regarding energy usage,

*The attachments have been retained in committee files.

conservation measures, load control programs, alternative energy sources, and new sources of supply. When retail prices do not cover costs, the utilities are left with a shortfall that cannot be made up on volume. In addition, existing suppliers and new generation developers will respond favorably when the retail prices rise to a level that allows for recovery of wholesale costs because they have more confidence in the utilities ability to pay for their product.

Second, the California market would function more efficiently with some reforms such as credit support for the existing debt from either the state or federal government. Additionally, the settlement process could be shortened to time periods that are more typically prevalent in the industry. Faster settlement would ease some liquidity pressure on suppliers. The introduction of forward contracts would also provide some risk management tools for those buying on behalf of retail customers.

The third recommendation is to incorporate a long-term view to the supply of power. For instance, generation siting needs to be more flexible and expeditious. Grid expansions also would facilitate a more fluid electric market with potentially additional participants. A diversified fuel mix, including renewables, will contribute to the stabilization of price volatility. Finally, increased applications of customer and utility distributed generation will provide further supply options for the future.

IMPACT TO IDAHO

Idaho Power's strong reliance on hydro generation produces both benefits and detriments to the Company and its customers. Under normal water conditions and markets, Idaho Power is the least cost provider among all investor-owned utilities. The abundant supply of inexpensive energy consequently has contributed to the growth of an industrial and agricultural base across southern Idaho.

On the other hand, hydro generation causes both supply and cost management problems for Idaho Power due to the variability of stream flows and their corresponding effect on hydro generation output. The management challenge is further contingent on additional demands for river operations such as recreation, flood control, and fish restoration.

In order to respond to wide fluctuations in hydro generation, Idaho Power supplemented its hydroelectric production with coal-fired generation plants that supply reliable resources from an availability aspect but tend generally to be more expensive to operate relative to hydro due to the addition of fuel costs. Furthermore, both seasonal and annual fluctuations in stream flow conditions led Idaho Power to early and active participation in the northwest wholesale power market. The active northwest energy market benefited Idaho Power and its customers for a number of years because our peak energy loads and surplus generating opportunities came at different time periods than our neighboring utilities.

As power purchases and fuel costs became increasingly more important to Idaho Power's financial well being, the Company, along with its customers and regulators, developed a ratemaking mechanism that allowed for the transfer of most, but not all, of the power supply costs and revenues to the Idaho retail customers. By leaving a portion of the costs and benefits for absorption by the Company's shareholders, the mechanism aligned the customer's and the Company's economic interests at all times. Therefore, whenever Idaho Power is in the market, either to buy for its system requirements or to sell its surplus generation, its customers have the major interest in optimizing the transactions that is, receiving the lowest price when buying and the highest price when selling.

The California energy situation impacts Idaho Power in multiple ways. To begin with, Idaho Power, along with many other western utilities, frequently accesses the same energy markets as California. Current California demands ripple throughout the whole western grid. The increased prices we pay for power reflects the effect of the California situation on the market. Idaho Power Company's power supply costs during the last eight months have hit levels previously unheard of or even contemplated. At this point in time our Idaho retail customers are looking at a 24% overall rate increase this spring with possibly even greater increases if our currently dry winter continues. Attachment 4 shows Idaho Power's actual net power supply expenses over the last eight months compared to expected expenses and normal expenses. In December alone, the Company spent \$70 million more than expected. Attachment 5 demonstrates the cumulative effect of increased power supply expenses over the eight-month period.

The Secretary of Energy's executive orders compound the problem for us in several ways. First, they create uncertainty in market operations as western energy suppliers sort through their California obligations before responding to others in need of power. Second, the executive orders create additional uncertainty for hydro operators who contemplate whether to draft reservoirs in the middle of winter to

serve California loads. Drafting reservoirs now could prove to be extremely detrimental to our native retail customers as the Company faces its own system deficiencies this summer with below normal water conditions. Under the direction of our governor and our state commission, Idaho Power has not drafted its reservoirs to date.

However, as this spring progresses there will be the possibility that Idaho Power's system generation could exceed our retail customers' needs. River operations, due in part to flood control considerations, usually require the Company to draft reservoirs in late February and March. At these times, Idaho Power will have the opportunity to sell its surplus power on the market. The Company and its customers would like to obtain the best possible price at this time because the revenues from surplus sales offset the high power purchase costs the Company has been experiencing. Obviously after buying all winter without the benefit of wholesale price caps, the Company does not desire to sell into a market where they are imposed. Furthermore, should Idaho Power generate surplus power to sell in the market, it is imperative for both its customers and shareholders that it be paid for those sales.

As stated above, Idaho Power and its customers are looking at a challenging year from a power supply perspective with significant rate increases likely for this spring. The Snake River agricultural base will be hit particularly hard because of their dependence on high load-factor electric pumps to irrigate fields. Asking these farmers to pay for power supply costs driven up by the action of others is not an acceptable solution.

HYDRO RELICENSING

Another contributor to supply and reliability problems is the loss of non-federal hydroelectric power due to the cumbersome and costly hydroelectric relicensing process. Hydroelectric power plays a critical role in western energy supply, particularly as it relates to meeting peak demand. In the Idaho Power system and in other parts of the Northwest, hydropower contributes to over half of our energy supply. In a recent government study, it was revealed that hydroelectric plants are losing on average approximately 8% of their generation capacity due to conditions placed on the licensee. These are conditions that Federal natural resource agencies can place on a licensee without regard to how it effects the loss of generation, economics, recreation, or other ancillary attributes of a facility. Hydropower is a clean, renewable, and efficient generation resource and we can ill afford to lose this valuable asset. I urge you to support legislation, such as that introduced by Senator Larry Craig (S. 71) that restores balance into the relicensing process. Three attachments are included in support of hydroelectric Relicensing reform. Attachment 6 is a copy of testimony the company recently submitted at informational hearings conducted by the Federal Energy Regulatory Commission. Attachment 7 and Attachment 8 are two background papers outlining basic facts about hydropower and examples of some of the problems associated with the current relicensing process.

SUMMARY

Rising natural gas prices, poor streamflow conditions, and a disintegrating California power market have combined to create a turbulent year for energy providers and their customers. Utilities seek to provide essential services while having to purchase shortfalls in an unforgiving market. In turn, rates must go up to cover the additional costs while customers and utilities both try to optimize their energy dollar.

Idaho and Idaho Power are no exceptions as we and our customers face what may be our most challenging year. Additional burdens created by federal mandates directing preferential treatment for another state's energy crisis are not warranted nor welcome.

We would ask that additional federal executive orders not be extended and that California look to itself first in seeking to resolve its energy problems.

Finally, as a predominately hydroelectric company, we would endorse relicensing reform as a means of preserving some of the supply we enjoy today.

The CHAIRMAN. Thank you very much. I think you have pretty much painted the picture from Idaho Power's point of view.

We will move to Mr. Brett Wilcox. Mr. Wilcox is chief executive officer of the Golden Northwest Aluminum, Incorporated, in The Dalles, and I assume you will be prepared to tell us whether it is better to be in the aluminum business, or the business of reselling power as opposed to making and selling aluminum.

STATEMENT OF BRETT E. WILCOX, CHIEF EXECUTIVE OFFICER, GOLDEN NORTHWEST ALUMINUM INC., THE DALLES, OR

Mr. WILCOX. We operate two primary aluminum smelters in Goldendale, Washington, and The Dalles, Oregon. We employ 1,225 highly paid workers at full production. Unfortunately, our primary aluminum production now is almost completely curtailed. The reason is simple. Power prices in the West are simply too high to produce aluminum. Some other energy-intensive manufacturing companies also have had to curtail production. Soon, many more jobs in industry and agriculture will be lost.

Make no mistake about it, the energy crisis is not just about electricity bills, it is also about paychecks. So far our company has been able to mitigate the impact of higher power cost because we purchase some of our power under long-term contract with the right to remarket power we did not use. Through agreements with the Bonneville Power Administration and our union, we were able to reduce consumption, remarket power, and use the net financial benefits to protect our workers, share with BPA, and help pay for new conventional and renewable power resources.

The electricity crisis in California has adversely affected the entire West Coast. Some of the causes are obvious, shortage of generation, low average hydropower, gas and power transmission bottlenecks, and increases in natural gas prices, but the most frustrating cause is the rules California adopted for electricity restructuring have themselves driven up prices not only in California but in the Northwest.

The sharp drop in demand that usually follows a sharp increase in the price of any commodity has not yet occurred in California because most end users there have not yet received price signals of the crises. Instead of higher prices balancing the market, Californians have experienced rolling blackouts.

In the short term there are few ways to increase supply. We need to speed up the permitting process required to develop new generating resources. We can also temporarily relax some powerplant emission controls, as Governor Locke of Washington has announced, and we need to remove constraints on hydro operations, especially spilling water, that significantly reduces power generation without really helping endangered salmon.

Near-term responses need to focus on ways to reduce demand. Demand reductions will occur. The issue is how to ensure that they do not destroy the economic well-being of the West in the process. End-use consumers cannot be spared the rate impacts of high power costs for long, but the way in which we pass those high costs through to them will determine how they affect the economy.

If soaring wholesale power costs drive up the average melded cost of every kilowatt hour of power, then residential customers will be hit hard not only in their utility bills, but even harder in their paychecks. This is because any significant increase in the average cost of all power will shut down large portions of manufacturing, business, and agriculture. The same is true of California as the Northwest. In a competitive global economy, even a small increase in the average cost of a company's entire power supply could make its entire operation uneconomic.

The alternative is to make end-use consumers feel the full impacts of higher wholesale power cost at the margin. This gives real price signals. Increase in consumption requires someone to buy very expensive power. The end-use consumer should feel that cost. Decrease in consumption reduces the need to buy expensive power, and end-use consumers should experience that savings, too.

Businesses can conserve energy at the margin, ensuring that the bulk of their production continues to be competitive. For example, a farmer can take some marginal acreage out of production rather than being forced out of business altogether because of a large increase in the average cost of its entire irrigation load.

A very practical application of this is possible in the Northwest through BPA. Until recently, BPA planned to continue selling power to customers for about \$25 per megawatt hour. Now BPA expects to pay \$125 per megawatt hour to buy the power it needs to meet its load. This will lead to large increases.

Instead of melding high cost purchases with low-cost supply, BPA should divide each customer's purchases into two parts. The larger part could be supplied without buying expensive additional power. The smaller part would represent the portion that Bonneville has to buy at high cost. Each customer would be able to turn the higher cost portion back to BPA, allowing BPA either to remarket it at a higher market price and credit the proceeds against the customer's bill, or to reduce the amount that BPA itself must pay. This not only helps the customer and the economy, but also ensures BPA repayment.

I know this idea can work, because our company has already pioneered it with BPA. We curtailed our smelting load, returned the power to BPA, and are putting the marketing proceeds to beneficial use. What I am proposing here is an adaptation of that successful effort. It could apply broadly to all BP customers. This would significantly reduce BPA's need for power and cost. Only a broad effort can spare deep pain.

Thank you very much.

[The prepared statement of Mr. Wilcox follows:]

PREPARED STATEMENT OF BRETT E. WILCOX, CHIEF EXECUTIVE OFFICER, GOLDEN NORTHWEST ALUMINUM, INC., THE DALLES, OR

Good morning, Chairman Murkowski and Members of the Committee. My name is Brett Wilcox. I am the CEO of Golden Northwest Aluminum, the corporate parent of Goldendale Aluminum Company and Northwest Aluminum Company. We own and operate two primary aluminum smelters and associated facilities in Goldendale, Washington, and The Dalles, Oregon. We are by far the largest employer in these beautiful but economically distressed rural areas. We employ a total of 1,225 highly paid workers, at full production.

Unfortunately, we are no longer at full production. Our primary aluminum production is now almost completely curtailed. The reason is simple: power prices in the West are currently too high to support aluminum production. Other energy intensive manufacturing companies that are exposed to the market price for power also have had to curtail production. Soon, when high market prices for power purchases are passed through rates charged by the Bonneville Power Administration and local utilities, other Northwest manufacturing and industrial jobs, as well as agricultural jobs that depend on irrigation pumping, will be lost. Make no mistake about it: the crisis in the West is not just about electricity bills. It is also about paychecks.

So far, our company has been able to mitigate the impact of higher power costs because we purchased some of our power under long-term "take-or-pay" contracts with rights to remarket any power that we didn't use. Through agreements with

BPA and our union, the United Steelworkers of America, we were able to reduce consumption, remarket the power made available, and use the net financial benefits in the Northwest to protect our workers, share with BPA, and help pay for new conventional and renewable power resources to supply a portion of our long-term power requirements. I've attached to my testimony our release explaining our curtailment and remarketing.

The electricity crisis in California has adversely affected the entire west coast. Some of the causes are obvious: physical shortages of generating capacity, below normal precipitation and hydro power, bottlenecks in power transmission and gas pipeline capacity, increases in the price of natural gas, and resource outages. But the most frustrating cause is that the "rules of the game" California adopted for electric power restructuring—unlike the rules in other states—have themselves driven up prices not only in California, but in the Northwest as well.

The sharp drop in demand that usually follows a sharp increase in the price of any commodity has not yet occurred in California, where most end-users have not yet received any "price signal" of the crisis. Instead of higher prices balancing the market, Californians have had to experience rolling blackouts. In the Northwest, however, the price impacts are now being felt by end-users. The full force was felt first by the aluminum smelters, then by the industrial customers of several large utilities. Now it is about to be felt by almost everyone in Washington, Oregon, Idaho, and western Montana.

This crisis has few short-term fixes to increase supply. We do need to speed up the permitting process required to develop new generating resources and to build new power transmission and gas pipelines. One short-term way to increase the supplies of power is to the temporary relaxation of some power plant emission controls, as Governor Locke of Washington has just announced. We also need to review and remove constraints on hydro operations—especially spilling water—that significantly reduce power generation without really helping endangered salmon.

Near-term responses need to focus on ways to reduce demand. Demand reductions perhaps massive ones—will occur. The issue is how best to manage them, and how to ensure that they do not destroy the economic well being of the West. End-use consumers can't be spared the rate impacts of high power costs for long. But those high costs can be passed through in two ways: either by melding costs and raising the average rate of every kilowatt-hour, or by passing through actual high market prices just on the marginal kilowatt-hours of consumption.

If soaring wholesale power costs drive up the average cost of power, then residential customers will be hit hard not only in their utility bills, but even harder in their paychecks. This is because any significant increase in the average cost of power will shut down a huge portion of Northwest manufacturing, industry, and agriculture—and presumably the same is true in California. In a competitive global economy, even a small increase in the average cost of its entire power supply can make a company's entire production uneconomic.

The alternative is to make end-use consumers feel the impact of higher wholesale power costs at the margin. This gives real price signals. Increases in consumption require someone to buy very expensive power: the end-use consumer should feel that cost. Decreases in consumption reduce the need to buy very expensive power: the end-use consumer should experience that saving. Businesses can conserve energy at the margin, ensuring that the bulk of their production continues to be competitive. In agriculture, for example, a farmer can take some acreage out of production for a period, rather than not being able to farm at all because of a large increase in the cost of his entire irrigation load.

A very practical application of this is possible in the Northwest through the Bonneville Power Administration ("BPA"). BPA supplies forty-five percent (45%) of all power in the Northwest. Until recently, BPA planned to continue selling power to utilities at \$20-\$25 per megawatt-hour ("MWh"). Now BPA expects to pay \$125/MWh to buy the power it needs to meet its load growth. As a result, BPA last week announced a sixty percent (60%) rate increase for its customers for the entire next five years. This comes on top of very large rate increases many Northwest utilities have already imposed on their retail customers.

Dividing each customer's purchases into two parts could mitigate this situation. The larger and less expensive portion would be power that BPA can supply without buying expensive additional supplies in the market. The smaller and much more expensive portion would represent the portion that BPA must spend huge sums to buy. Each customer should be able to turn the latter portion back to BPA, allowing BPA either to remarket it at high market prices and credit the proceeds against that customer's power bill, or to reduce the amount that BPA itself must buy to meet its customer's loads. This not only helps the customer and the economy, but

also ensures that BPA can meet its treasury payments no matter what happens to the wholesale cost of power.

I know this idea is practical and can work. I know because our company has already pioneered this with BPA. We curtailed our smelting load, returned the power to BPA for remarketing, and are putting the remarketing proceeds to beneficial use. Demand for power is temporarily reduced, BPA is on a sounder financial footing, our workers are still getting paid, and we are putting money aside to develop new power sources, including wind generators. What I'm proposing here is an adaptation of that already-successful effort, but one that could apply broadly to all BPA customers, reducing overall BPA requirements by perhaps ten to fifteen percent (10-15%). Only a broad effort can spare everyone deep pain.

I've attached to my testimony a paper showing how this concept can work to save aluminum jobs and other jobs throughout the Northwest until the day when power supplies increase and power prices become more reasonable. I hope you will review this paper and contact me with any questions. I hope you will urge BPA to implement this approach.*

Finally, turning to the long-term, there are many potential solutions that have been covered by others here today. I would like to mention one additional solution that deserves more attention. The vast reserves of natural gas in Alaska, the Beaufort Sea, and northern Canada are a key to the long-term energy supply and continued economic prosperity of the United States and Canada alike. Left to their own devices, market forces will eventually be sufficient to get this gas to the Lower 48—but the gas will arrive here more slowly, in smaller volumes, and at higher prices than would be optimal for the North American economy.

This is an instance where market forces could use some help in the form of active diplomacy and initiative by the U.S. and Canadian governments. The obstacles to an optimal timing, volume, and price of northern gas are primarily economic obstacles within Canada—particularly the perceived interests of those who benefit from today's high gas prices and today's constrained limits on available pipeline capacity. Those interests are legitimate, but they can be reconciled with the broader interests of the economic health of both nations. If this happens and the two governments, working together, can bring it about then the northern gas should be able to get here quickly, in large volumes, and at prices low enough to spur decades of continued economic prosperity.

Thank you for your time and consideration.

The CHAIRMAN. Thank you very much.

Mr. Mark Crisson, director and CEO of Tacoma Public Utilities, and again, none of you from the Pacific Northwest have mentioned the potential availability of power from British Columbia. Maybe somebody will, but I just wanted to remind you. I see we have a volunteer, Judi Johansen, who is next in line, so my question, while you think about it, is, can we not just go up to British Columbia and pay the price?

Mr. Mark Crisson, please proceed.

STATEMENT OF MARK CRISSON, DIRECTOR/CEO, TACOMA PUBLIC UTILITIES, TACOMA, WA

Mr. CRISSON. I am Mark Crisson, director of Tacoma Public Utilities in Tacoma, Washington. Our largest division is Tacoma Power, which serves 150,000 customers and operates 700 megawatts of hydroelectric capacity.

As you have heard from our earlier panelists, the Northwest is experiencing very dry weather conditions. Mr. Gale from Idaho said he has 60 percent snow pack. That sounds pretty good to me. We are looking at about 45 percent. Our inflows are the lowest of 80 years of historical record right now, and consequently our hydro facilities are greatly under-performing their planned levels, and we are having to turn to these West Coast power markets for about

*The paper has been retained in committee files.

25 percent of our power needs, and we have heard about the prices in the power markets.

This is having a drastic effect on our financial resources. I estimate that with continuation of current weather and market conditions we will exhaust our entire \$130 million cash reserves by April, and that is with our rate surcharge in place. We put a 50-percent rate surcharge in place in December. In the meantime, other Northwest utilities have started to follow suit.

Snohomish Public Utility District in Everett, Washington, did 35 percent. Seattle City Light has done 28 percent to date. Yesterday they reported that by October that may have to go up to a total of 75 percent in order to pass through the full effect of Bonneville's projected increase of 95 percent that was mentioned earlier in the panel discussion.

Clearly, this is a regional problem, perhaps even a national problem, and the impacts of our power surcharge are already being felt in our community. While our rates have historically been low, our per capita usage is higher than average, resulting in bills that are equal or above the national average for our residential customers, so the increase in the bills from Tacoma Power will create significant hardship for many in our community.

Moreover, many energy-intensive industries have located in the Northwest and in Tacoma in reliance on low power prices. The recent surcharge, together with steep increases in natural gas prices, have already forced several of our industries to curtail their operations or suspend production altogether. For example, Louisiana Pacific, Pioneer Chemical, who was our largest customer, Schnitzer Steel, and Atlas Foundry have all either curtailed or suspended operations. It should be noted this happened before the full impact of our surcharge is even reflected in their bills.

We have taken a number of steps on the surcharge in trying to deal with this crisis. We brought in an additional new power supply by installing 50 megawatts of temporary diesel generation with the best available control technology to try to address our power shortage. These are not cheap, but at current power prices we are saving \$300 to \$400,000 a day in purchase power with these in operation.

We are also promoting conservation in our service area through advertising, direct customer contact, and product promotion. Our city council has adopted a resolution that sets an aggressive conservation target of 20 percent in our community.

I do believe there is a Federal role in this crisis. The Federal Energy Regulatory Commission is being called upon by my utility as well as by a host of others to temporarily reestablish cost-based rates and, if necessary, firm price caps in Western energy markets. Unfortunately, a current majority of the commission appears more concerned with not interfering in what is clearly a dysfunctional market than they are in fulfilling their prime directive under the Federal Power Act that wholesale rates be just and reasonable. In order to avoid further utility insolvency and to mitigate the rate impact on all consumers, it is time for FERC to impose cost-based pricing or caps on a temporary basis.

I want to emphasize that insolvency is a continuing concern for Tacoma Power. Even with our 50-percent surcharge in place, we

will need to borrow nearly \$100 million between now and October to pay our purchase power bills. We just cannot raise the rates fast enough to keep up with what we are seeing in these markets.

Many of the steps we have talked about today are fine, but they just do not address the short-term problem. In my opinion, we have a house that definitely needs to be put in order, but the house is on fire, and we need to put the fire out before we worry about remodeling.

One panelist earlier was concerned that such steps might distort the market. In my view, we are ready for some changes. Distortion in this market might be an improvement.

Mr. Chairman, many concerns along these lines can be addressed in how the pricing mechanism is structured and applied. That is why there needs to be a healthy discussion about the form of the pricing mechanism. The point is that the debate at the Federal level should be how best to reestablish the link between cost and price in these markets, not whether it should be done.

Let me just conclude by saying that our problem in Tacoma and, I think, in the region can only be remedied in the short term by a return to cost-based power pricing or more precipitation in the Northwest, but not even Congress can make it rain, so Tacoma supports legislation to direct FERC or an appropriate party to fulfill the mandate of the Federal Power Act to assure just and reasonable wholesale rates in Western markets through temporary cost-based pricing, as described above.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Crisson follows:]

PREPARED STATEMENT OF MARK CRISSON, DIRECTOR/CEO, TACOMA PUBLIC UTILITIES, TACOMA, WA

Mr. Chairman and members of the Committee, I am Mark Crisson, Director/CEO of Tacoma Public Utilities in Tacoma Washington. The Department provides power, water, and rail services to Tacoma and vicinity. Our largest division is Tacoma Power, which serves 150,000 customers and has an annual budget of approximately \$250 million. The utility owns and operates four hydroelectric projects comprising a total electrical capacity of over 700 megawatts.

The Northwest is currently experiencing very dry weather, which is resulting in record low inflows to our power projects. Consequently, our hydroelectric facilities are significantly under-performing in relation to their planned levels, and we must purchase power in the western wholesale markets to replace this shortfall. Unfortunately, these markets are experiencing unprecedented price levels that are presently 10-15 times normal and at times have been as much as one hundred times last year's levels. This has had a drastic effect on our financial resources: we estimate that with a continuation of the current weather and market conditions, we will exhaust our \$130 million cash reserve by the end of April.

With the support of the Public Utility Board and City Council, Tacoma Power responded decisively by implementing a 50% electric rate surcharge on December 20. In the meantime other Northwest utilities have also imposed surcharges or announced rate increases, including Seattle City Light and Snohomish Public Utility District. Last week Bonneville Power Administration announced it will require a rate surcharge of 95% in October and estimates rates will average 63% above current levels over the next five years. As you can see, the power supply and price impacts of California's problems extend well beyond California: the Northwest has been adversely impacted as well. And as Chairman Greenspan testified last week, and as President Bush noted this week, this mess could undermine the country's economic expansion, making this not just a regional problem, but a national one.

The impacts of our power surcharge are already affecting the Tacoma economy and our community. While our rates have historically been low, our per capita usage has been higher than average, resulting in bills that are equal to or above the national average for residential customers. The increase in these bills will create sig-

nificant hardship for many in our community, particularly low-income residential customers using electric heat and water heat. Moreover, many energy-intensive industries have located in the Northwest and in Tacoma in reliance on low power prices to enhance their costs of production. The recent surcharge, together with steep increases in natural gas prices, has forced several of our industries to curtail their operations or suspend production altogether, e.g. Louisiana Pacific, Pioneer Chemical, Schnitzer Steel, and Atlas Foundry. It should be noted that this has happened before the full impact of the surcharge is reflected in customer bills.

In addition to the surcharge, Tacoma Power has taken a number of other steps in response to this crisis. First, we have tightened our belt considerably, reducing all unnecessary capital outlays and putting system expansion plans on hold. Second, we have secured additional new power supply by installing 50 megawatts of temporary diesel generation (with best available control technology) in our industrial area. These units began operation this week, and are saving us \$300-400,000 per day in purchased power expense. Third, we are strongly promoting increased conservation in our service area through advertising, direct customer contact, and product promotion. Our City Council has also adopted a resolution that sets an aggressive conservation target of 20% for our community. And, finally, we are working with state and federal government regulators and legislators to address the energy problem.

With regard to this last point, Governor Locke has tackled the energy problem by introducing a bipartisan package of legislation aimed at promoting new supply and increased conservation. He also declared a state-wide energy alert last week to facilitate operation of temporary additional generating sources and to require conservation on the part of public sector agencies. Tacoma, other Northwest utilities, and the State of Washington have all stepped up and taken meaningful, and often difficult, actions to address this dilemma—it's now time for the federal government to help.

While the problems in California may be largely self-inflicted, their effects are regional and national in scope. Moreover, in creating the Independent System Operator, California essentially federalized the matter, since the ISO is under jurisdiction of the Federal Energy Regulatory Commission. FERC has been called upon by my utility, as well as by a host of others (the states of Washington, Oregon, California, Seattle City Light, and the California Municipal Utilities, to name a few) to temporarily re-establish cost-based rates and/or firm price caps in western energy markets. Unfortunately, a current majority of the Commission appears more concerned with not interfering in what is clearly a dysfunctional market than they are in fulfilling their prime directive under the Federal Power Act that wholesale rates be just and reasonable. California is taking steps to right its ship, but most of the steps are aimed at avoiding utility bankruptcy or facilitating the acquisition of new supply. It's not clear the state's actions will have any beneficial impact on the near-term price of wholesale power. In order to avoid further utility insolvency and to mitigate the rate impact on all consumers, it is time for FERC to impose cost based pricing and/or price caps on a temporary basis.

FERC should move quickly to take three steps. First, it should define standards for what comprises a competitive market. Second, it should then require cost based rates and/or price caps for markets which do not meet this standard. Third, it then needs to establish some process for monitoring operation and compliance in the markets.

Most concerns with price caps in this instance are not well founded, particularly since their implicit premise is a functional market. Many concerns can be addressed in how the pricing mechanism is structured and applied. That is why there should be a healthy discussion about the form of the pricing mechanisms, since this new territory. For example, one approach would be to use a multiple of the price of natural gas as the basis for a price cap, with exceptions allowed only when it can be demonstrated that actual unit-specific costs exceed that level. The point is that the debate at the federal level should be how to best re-establish the link between cost and price in these markets, not whether it should be done.

Our residents, businesses, and industries are all suffering severe economic impacts due to higher power and energy prices. This situation can only be remedied in the short term by a return to cost based power prices or more precipitation in the Northwest. But not even Congress can make it rain, so Tacoma supports legislation to direct FERC or an appropriate party to fulfill the mandate of the Federal Power Act to assure just and reasonable wholesale rates in western markets through temporary cost based pricing as described above.

That concludes my testimony. Thank you, Mr. Chairman.

The CHAIRMAN. You realize, Mr. Crisson, you are challenging the ability of the lobbyists, who are often referred to as rain-makers.

Mr. CRISSON. We are definitely throwing down the gauntlet to that group, sir.

[Laughter.]

The CHAIRMAN. Well, the proof is in the pudding, and we have not had either one yet.

Ms. Johansen of Pacific Corp is executive vice president for regulatory and external affairs.

STATEMENT OF JUDI JOHANSEN, EXECUTIVE VICE PRESIDENT, REGULATION AND EXTERNAL AFFAIRS, PACIFICORP, PORTLAND, OR

Ms. JOHANSEN. Thank you very much. The nice thing about battling clean-up is there is not much left to say.

The CHAIRMAN. There is one more.

Ms. JOHANSEN. I was speaking on his behalf.

PacifiCorp is the largest private utility outside the State of California. We have the pleasure of serving in six States in the Western region, and we serve over 1.5 million customers.

As I sit here today, I think about the context of this debate. There has been a lot of discussion about price caps and economic theories. I sit here thinking there is a very high probability that the West Coast will face blackouts this summer due to the very events that people have discussed earlier, so our task is not simply what do we do for the long term, but what do we do for this summer and for the next few years.

I would like to echo the call that several have made for the immediate imposition of some sort of cost-based price caps on wholesale sales. We, like other utilities, are seeking emergency rate relief today. We are before the Utah commission seeking emergency relief to keep our utility in good financial shape, so those price caps can only stem some of the bleeding that we are all feeling.

There is an urgent need because of the situation for this summer for Federal and State political leaders to immediately appropriate funds and create emergency incentives for more conservation to compliment what is already being done.

Third, the Federal Government must stop extending the DOE order compelling sales of power from Northwest utilities into uncredit-worthy parties in California.

One point that has not been mentioned here today, the California Power Pool, the PX, has a very odd mechanism whereby if one party defaults the other parties pay their bill. With Southern Cal Edison defaulting on its payment to the PX, my company this week received a bill for their debt, and we are expecting an even larger bill for their debt in addition to the burden that we currently take on.

That is an untenable position, and Senator Murkowski appropriately points out that it creates a takings liability for the Government to compel us to continue to participate in those markets.

Access to capital is being hindered by the repercussions of the California situation. Our own utility is facing increasing cost and limitation on access to capital, and it comes at a very difficult time, because the very fix we need is investments in the infrastructure,

so we need the Federal and State leadership to assure the financial markets that you will take actions to assure that our investments will be sound.

Finally, I will comment on the Canadian situation. There are two thoughts that come to mind. First of all, while Canada has significant generation resources, they, too, are a hydro-based utility, or have a hydro-based system. They, too, are suffering the same drought conditions, but that being said, they have been significant participants in this West Coast market and I would urge that, as we look at price cap solutions, we also assure that somehow the Canadian participants in the California markets and in the West Coast market somehow be caught under the net of that regulation as well.

Thank you very much for your time.

[The prepared statement of Ms. Johansen follows:]

PREPARED STATEMENT OF JUDI JOHANSEN, EXECUTIVE VICE PRESIDENT, REGULATION AND EXTERNAL AFFAIRS, PACIFICORP, PORTLAND, OR

Mr. Chairman and members of the Committee, my name is Judi Johansen. I am Executive Vice President for Regulation and External Affairs at PacifiCorp. My company is an electric utility that provides retail service to nearly 1.5 million customers in six western states. We have about 8,000 megawatts of electric generating capacity in nine states, and approximately 15,000 miles of transmission lines across the west.

PacifiCorp has not been a major player in California competitive markets since deregulation was implemented there in 1998. The California market presented few opportunities and increasing risk over time, so PacifiCorp has had small exposure in California. We do continue to provide service to about 45,000 retail customers in the far northern part of the state.

Coupled with substantial growth in other parts of our own service territory, PacifiCorp has not had a substantial amount of electricity to sell to the California Independent System Operator since the forced-sale emergency orders were issued, beginning more than a month ago.

That is not to say, however, that our company and customers are immune to the problems in California. The western region is a highly interconnected grid that has spawned a region-wide wholesale power market. California represents at least 30 percent of the western market.

PacifiCorp is in the wholesale market even though our generation portfolio roughly meets our load requirements. Generally, the company needs to purchase power to meet peak needs, both seasonally and daily. Peak power is generally the most volatile market; the cost of this power can be several multiples of off-peak prices.

As a result, we have filed applications to account for extraordinary power costs and, in some cases, to begin recovering those costs from customers. We believe the volatility in peak markets has largely been driven by a combination of decreasing generation reserves plus flaws in the California structure that drove so much of that state's procurement into the spot market.

The company and our customers are also exposed to the California utilities' defaults on obligations to the California Power Exchange (PX). This is due to a convoluted, inequitable provision in the PX system that assigns the obligations of defaulted PX participants to entities still involved in the PX. When Southern California Edison defaulted on its payment obligation to the PX two weeks ago, the PX sent other PX participants bills for shares of this obligation, based on their proportionate piece of the PX market. In PacifiCorp's case, this bill represented about \$2 million or one percent of the defaulted obligation.

The volatile, costly wholesale market and collapsing PX are two significant manifestations of the shock waves California has sent through the west. Now, California is in the midst of significantly changing its deregulation statute and policy makers here in Washington and in every western state capital are considering what needs to be done to bring demand and supply back into balance and otherwise stabilize the market.

PacifiCorp is eager to engage in these discussions. In fact, the company gathered a series of regional stakeholders last October to discuss the problems that arose last summer and steps to alleviate future supply shortages. While nobody at that forum

predicted the dire consequences that would befall the west less than two months later, I do believe we began an important dialogue.

Whatever path federal and state leaders choose, the path must be one that works for electric consumers. Customers want prices to be stable and reasonable and they want service to be reliable. PacifiCorp aspires to remain a low-cost provider of electricity and to provide world-class customer service. Our new service standards and commitments will meet these aspirations.

The fundamental requirement on all stakeholders is to take steps to balance supply and demand. In each case, it is vital to have a regulatory and investment climate conducive to meeting the following objectives:

- tempering demand growth with price signals and other opportunities to encourage energy efficiency;
- facilitating the reliable, economic delivery of electricity over the western transmission grid;
- providing greater certainty over the terms and conditions under which generating facilities already in operation may run over the next 10-20 years;
- creating an environment conducive to investments in new generation resources.

PacifiCorp has been working with state regulators and customers to enhance energy efficiency and load reduction both immediately and in the long term. We urge the Congress to give serious consideration to tax policies that encourage investments in energy efficiency such as those embodied in S. 2718 from the 106th Congress.

With respect to enhancing transmission, PacifiCorp has been leading the effort to form RTO West in response to FERC Order 2000. We believe the current situation makes establishment of RTO West even more valuable than ever. Creation of RTO West will make grid operations more efficient and facilitate construction of new generation. While the company has not taken a position on proposals to provide the FERC with eminent domain authority to site new transmission facilities, it is worth noting in the west that significant existing and future transmission corridors are located on federal lands. Federal agencies should work constructively to locate facilities expeditiously and permit their construction and operation in a cost-effective manner.

Maintaining existing generation capacity is vital to upholding the first rule for getting out of a hole—stop digging. Most of PacifiCorp's existing generation fleet is comprised of mine-mouth coal plants in the Intermountain West and hydro generation in Washington, Oregon and Idaho.

With respect to hydro, we have been actively engaged in relicensing various projects and find the process frustrating as most agency participants have no obligation to balance environmental and economic objectives. This Committee heard testimony from PacifiCorp last year on Senator Craig's legislation to make modest changes in the Federal Power Act's licensing procedures. We thank Senator Craig, Senator Gordon Smith, and others actively engaged in this legislation for their work and urge the Committee and its members to review the bill now pending before the Committee, S. 71, in light of current and future electric resource needs.

Our coal plants are already among the cleanest in the nation for SO₂ emissions. We recognize, however, that a new generation of air emission standards is possible in the next few years. PacifiCorp has been working at the regional level for nearly a decade to fashion an approach to regional haze that achieves environmental objectives through a flexible framework. Under the leadership of Utah Governor Mike Leavitt and the Western Governors' Association, great progress has been made on this front.

It is this type of constructive, cooperative approach to air quality issues that PacifiCorp hopes will mark the wave of emission control agreements. The company is prepared to engage in a multi-state, multi-pollutant strategy that, going forward, will achieve significant emissions reductions. This is a far better approach than the adversarial, litigious tactics that have pervaded emissions debates in other parts of the country.

To stimulate construction of new generation, it is important that policies and regulations at the state and federal levels properly align risk and reward. Investing in new generation—which by virtually all accounts is necessary to solve the west's problems—requires huge amounts of capital. Sending unclear regulatory signals about the potential return on investment (or sending clear, discouraging signals to investors) will thwart investment in new plants.

Conversations with investors and investment analysts confirm not only the potential for this investment gridlock, but the reality of it as well. Wall Street equates regulatory uncertainty with a bad investment climate. This makes the cost of financing new projects higher. These costs are ultimately borne by consumers.

While this concern is primarily a matter for state policy makers and regulators, it is relevant to how the Congress addresses supply policy and how the FERC fulfills its responsibilities.

PacifiCorp has taken the step of proposing a realignment of its corporate structure in order to make it easier for regulators to address resource acquisition strategies most appropriate to their respective states and customers. This realignment will also have the effect of sending clearer signals to developers about the potential for fair returns on investment in new generation.

Ultimately, our realignment will require approval from the FERC and Securities and Exchange Commission. But the consent of state regulators is essential to putting PacifiCorp in a position in which we may constructively contribute to solving the regional power supply problem.

On a related matter, PacifiCorp believes one of the more promising technologies available to increase generation is new wind energy. The Congress can help facilitate development of new wind generation by expeditiously extending the renewable energy production tax credit. And, federal agencies can help by approaching constructively the siting decisions essential for generation and associated transmission facilities.

Certainly, other inducements to new generation investment through the tax code and other instruments should be examined as well. PacifiCorp is eager to work with this and other relevant Committees of the Congress to this end.

Mr. Chairman, this concludes my prepared remarks. Thank you for the opportunity to testify. I would be happy to respond to any questions you or other Committee members may have.

The CHAIRMAN. Thank you very much, Ms. Johansen. I appreciate your statement.

Our last witness will be Mr. Curt Hildebrand of Calpine, and we look forward to your statement, and then we will get into the questions shortly thereafter.

Mr. Hildebrand comes as vice president, project development, of Calpine Corporation, Pleasanton, California.

**STATEMENT OF CURTIS A. HILDEBRAND, VICE PRESIDENT,
PROJECT DEVELOPMENT, CALPINE CORPORATION,
PLEASANTON, CA**

Mr. HILDEBRAND. Thank you, Mr. Chairman, members of the committee. I am actually supposed to be seated down with my colleagues from California, but being a powerplant developer in California I am kind of use to this treatment, not in my backyard, so I am down at this end.

The CHAIRMAN. There is more room at that end of the table than these folks have, so you are lucky.

Mr. HILDEBRAND. We also believe at Calpine the principal problem behind the energy crisis in California is insufficient supply of generating capacity, and we believe that we need to build more new, efficient powerplants to remedy the problem. We also believe the Federal Government can play a key role in helping achieve this goal by streamlining the regulatory process.

Today, I will describe my company, Calpine, and our plan to repower America. I will then share with you just two key examples of permitting problems we have had, specifically on California projects, and finally I will provide some specific recommendations on how to help solve these problems.

Calpine Corporation is based in San Jose, California, and is a leading independent power producer in the United States. The company's ambitious, 5-year, \$20 billion development program calls for Calpine to install and operate a 44,000 megawatt portfolio of natural gas-fired environmentally responsible plants. This portfolio will

be sufficient to supply the electrical needs of over 40 million Americans.

The California energy crisis has numerous fundamental causes, but no simply solutions. Calpine is working at a furious pace to help address the situation in California. Calpine currently has 1,300 megawatts of generation capability in California that has been operating virtually around the clock during the crisis. Three of the first four new projects under construction in California are Calpine projects, including the only two plants coming online this summer.

Mr. Chairman, I believe one of the key reasons the power supply is not adequate in California has been the slow and difficult permitting process for new plants. Calpine does not believe we must roll back environmental projections in order to increase electricity output. Instead, we want the Federal Government to take the lead and set an example by ensuring that new generation approval process proceeds as quickly as practical while still protecting the public interest.

Let me share briefly with you two recent examples of less-than-efficient permitting processes. In Sutter County, California, Calpine is constructing the 545 megawatt Sutter Power project that was designed to establish a new environmental benchmark as the cleanest gas powerplant ever licensed by the California Energy Commission. Over 3 years ago—in the interests of brevity I will summarize the testimony. It is in my written testimony.

Three years ago, we filed an initial application for a prevention of significant deterioration permit at USEPA under title I of the clean Air Act. 17 months after that original application was filed, the EPA region 9 solicited comments on the permit. A person living 100 miles away was the only commenter, and the agency thoroughly investigated that claim and found it to be frivolous.

Nevertheless, the same individual filed an appeal to the U.S. Environmental Appeals Board on the project. We were already in construction on the project. Even though the claim had no merits, the EPA's Environmental Appeals Board was forced to issue a stay of construction, effectively. They were not able to issue the final PSD.

Finally, after nearly 4 months of our pleading of our case, the board denied the appeal on December 2, 1999, ruling that the claim lacked any merit whatsoever. This delay unfortunately caused Calpine, at great expense, to expedite construction activities, and it has severely impacted our ability to put that project online in time for next summer's peak demand.

Let me share another brief example that has already been mentioned, the Metcalf Energy Center project in California. It is kind of the poster child, if you will, for projects, the current state of California.

It is a 600 megawatt facility planned for San Jose. The Silicon Valley imports over 90 percent of our power from remote parts of the State. This project is intended to be a showcase project in our home town. It has been overwhelmingly supported by a majority of stakeholders, including local environmentalists, including the Sierra Club, consumer advocates, the NAACP, and over 26,000 local residents.

However, this seemingly ideal project is being held up on a number of local, State, and Federal fronts, including local NIMBY opposition. I will concentrate on the Federal level. One failure affecting the project is the U.S. Fish & Wildlife Service and it is expected to issue a biological opinion in a timely manner. By law they have 135 days to do so. This opinion was originally due August 2000 on the Metcalf project. All issues have been settled. However, the opinion has still not been issued, and we have recently been told that it will not be issued for a matter of still weeks. This delay has in turn delayed the ability of EPA to proceed with their air permit process.

The CHAIRMAN. Your time has expired. I would ask you wrap up, please.

Mr. HILDEBRAND. Calpine is prepared to invest over \$5 billion over the next 5 years to expand power production in California. I do summarize four suggestions in my written testimony that I would suggest the Federal Government look at very strongly in terms of streamlining the overall approval process.

Thank you.

[The prepared statement of Mr. Hildebrand follows:]

PREPARED STATEMENT OF CURTIS A. HILDEBRAND, VICE PRESIDENT, PROJECT DEVELOPMENT, CALPINE CORPORATION, PLEASANTON, CA

Mr. Chairman, and Members of the Committee, thank you for inviting me to testify today regarding the California energy crisis. My name is Curt Hildebrand. I am Vice President of Project Development for Calpine Corporation. We applaud the Chairman and the Committee for holding this hearing to better understand the California energy crisis and its implications for affecting the long-term electricity needs for our country.

In my testimony, I will address the following issues. First, I will state briefly what I believe are some of the underlying causes of the California energy crisis and the ramifications for the future. Second, I will describe my company Calpine and our very active program to provide reliable, clean electrical power for our nation. Third, I would like to share with you today two particular examples of projects that offer much promise to helping us solve our nation's electricity needs, but have been significantly delayed as a result of the current regulatory system. Finally, I will attempt to provide some specific recommendations for helping to resolve the current electricity crisis and prevent future crises elsewhere in the country.

I am here today because Calpine believes that the federal government has a role in helping to generate more electric power in a timely manner, which in turn will help to resolve the California energy crisis, reduce the costs to customers, protect the environment, and avoid other future energy problems. There is no question that Calpine and other companies possess the technology to produce significant quantities of electrical power efficiently, at a competitive price, and in an environmentally-responsible manner. However, while Calpine's plans show great promise for helping to solve our nation's energy needs, we are subject to an unnecessarily burdensome regulatory bureaucracy that hinders our ability to build modern, environmentally-sound facilities.

In essence, Calpine believes that the construction of badly-needed, state-of-the-art energy centers must be approved in an efficient manner. Calpine believes that the federal government review process—which includes multi-agency action—should be coordinated and streamlined to allow all permits to be issued, after appropriate notice and comment, on a timely basis. We cannot afford to be subject to needless delays arising from the redundant review of the same claims that already have been thoroughly reviewed by the proper regulatory bodies. Federal and state agencies should adhere strictly to established deadlines in order to allow for the orderly construction of new power plants in a timely manner.

OUR NATION'S ENERGY INFRASTRUCTURE AND THE CALIFORNIA ENERGY CRISIS

Electricity generation, transmission, and distribution is the third largest industry in the U.S. Only the health care and automotive industries are larger. There are 750,000 megawatts of generating capacity in the U.S., and demand for electricity

is increasing annually by three percent. This growth in demand equates to 22,500 megawatts of new power generation capacity annually plus replacing nuclear, hydropower, and aging fossil-fuel plants that are retired from service.

As the Committee knows, the electric industry has been restructured at the wholesale level nationwide, and retail restructuring is proceeding in many states. Healthy competition, if restructuring is done correctly, should lead to lower electricity prices, more reliable service and reduced pollution. Nevertheless, the country's current population growth, an expanding economy, and the increasing use of electricity have strained our nation's power infrastructure. In addition to experiencing power shortages in California and elsewhere, the nation's current electricity-producing infrastructure is aging: 45 percent of the nation's power plants are over 25 years old. Aging coal-fired plants also have been a major source of pollution. Obviously, older plants cannot adequately satisfy our nation's current energy demands, let alone meet anticipated future demands.

The problems of inadequate supply can be prevented in the future only by the addition of new, efficient, clean energy centers. Modern gas-fired, combined-cycle plants are being built that will lower the cost of electricity and drastically reduce and even eliminate the impact of power generation on the environment. Calpine believes that building these new plants is important to the well-being of our country, and Congress should promote this transition from outdated, inefficient, and highly-polluting generation plants to the vastly cleaner and more efficient energy centers such as those that Calpine and others are building.

Let me review quickly the recent history of electricity generation in the U.S. During the late 1980s and early 1990s, there was an abundant supply of relatively inexpensive electricity in this country. Due to this large supply of available power, electric prices dropped and utilities stopped constructing new power plants. At the same time, many utilities chose to implement load management techniques that helped reduce or manage their customers' electricity needs, thereby freeing up extra capacity for new users. Independent power producers sought to develop new projects, only to encounter a maze of regulatory requirements and uncertainties that raised construction costs and dissuaded private investment in new power plant projects.

In recent years, the demand for electricity has, however, dramatically increased. The country's continued economic expansion during the 1990s, based in large part on growth in the electricity-consuming high technology and Internet sectors, voraciously consumed much of the excess reserve capacity in electricity markets. Unfortunately, despite warnings of a looming electricity shortage during this time period, many federal, state, and local regulators continued to raise numerous obstacles to new power projects, and many promising new energy plants languished in an onerous regulatory review process. Only recently have many government officials begun to recognize that new, fuel-efficient electric power-generating facilities, such as those currently being constructed by Calpine and others, are desperately needed all across the U.S.

CALPINE CORPORATION: OVERVIEW

Calpine Corporation, based in San Jose, California, is a leading independent power producer in the U.S. and is a recognized leader in our industry. Our goal is to become the largest U.S. power producer by being the low-cost base load generator and adding necessary low-cost peaking capacity. At the same time, the Company currently produces more renewable "green power" than any other company. We are the largest renewable power generator in the nation.

Calpine has embarked on an ambitious program to help solve our country's energy needs. To date, the Company has approximately 28,000 megawatts of total electric generation capacity in existing operation, under construction, and announced development in 27 states and Alberta, Canada. The Company has the most ambitious development program in the country with plans to install and operate a 44,000-megawatt portfolio of natural gas-fired, state-of-the-art, clean, and modern plants by 2005. This development program, which will be sufficient to supply the electrical needs for 46 million American households, will require a private capital investment of upwards of \$20 billion.

Calpine is working at a furious pace to help address the situation in California. Calpine currently has plants with 1,300 megawatts of generation capability in California that have been operating at full capacity virtually around the clock during the current crisis. Our California fleet of generators had average plant availabilities in excess of 95 percent for each of the past two years—well above the industry average. Four hundred and twenty megawatts of generating capacity is supplied to utilities through long-term, qualified facility contracts; virtually the entire balance is sold through bilateral contract arrangements.

Calpine is a recognized leader in developing new projects in the State of California. Three of the first four new projects under construction in California are Calpine projects. As we look forward in trying to meet the State's current needs, the only plants coming on line this year in California will be Calpine plants. We anticipate over 1,000 megawatts of new generating capacity to come on line in time to help meet this summer's peak demand. Ultimately, Calpine plans to have 10,000 megawatts of generating capacity in the State resulting from our estimated \$5 billion private capital investment.

Encouraging electricity generation based upon technology advances and utilizing cleaner resources, like natural gas, will enable the American consumer to be able to maintain their current standard of living at the same or reduced electricity cost, while meeting our clean air goals. One key to achieving these overall goals of increased electricity output, reduced cost, and a clean environment, is Congress' ability to establish an appropriate regulatory process that effectively and efficiently promotes new electric power plant permitting and construction.

THE FEDERAL GOVERNMENT MUST COORDINATE AND STREAMLINE THE APPROVAL
PROCESS FOR CONSTRUCTING NEW ENERGY CENTERS

Mr. Chairman, the California energy crisis is a national problem, or at least an indication of future national problems that must be addressed now. While some experts have pointed to numerous causes of this electricity crisis, including faster-than-expected increases over the past several years in consumer and business demand, Calpine believes that one of the most important causes has been the slow pace of development and construction of new sources of electric-generating capacity.

In sum, Calpine asserts that federal regulatory reforms are necessary to help the nation address the projected electricity shortages currently facing many regions of the country. Congress must hold the government regulatory agencies, including EPA and the U.S. Fish and Wildlife Service, accountable to met specific timelines, particularly for permit reviews and related responses to stakeholders. The regulatory process must be streamlined so that the same issues are not raised repeatedly at numerous stages of the regulatory process.

Mr. Chairman, I would like to state clearly for the record that Calpine cares about the environment; the Company designs efficient energy centers and prioritizes "green" energy resources. As a result, Calpine does not believe that the government must roll back environmental protections in order to increase electricity output. Instead, the federal government should take the lead and set an example by ensuring that the construction approval process proceeds in a timely and orderly manner. Currently, our bureaucratic process provides too many opportunities for individuals to halt or delay the approval process for reasons unrelated to local safety, health, and/or welfare, but rather to publicize and/or promote their other agendas relating to energy policy. The following are two good examples of projects held hostage by spurious claims and regulatory delays that have affected our ability to provide efficient electricity generation capacity that would help to prevent our current crisis.

SUTTER POWER PROJECT

Calpine's Sutter Power Plant project is a good example of how the regulatory process has hindered the construction of new power plants. In 1997, Calpine committed to build a new, clean-burning natural gas-fueled power plant in Sutter County, California. This new plant was a "milestone" project for California. It became the first new energy facility licensed in the State's deregulated electricity marketplace. This plant was intended to serve the electrical needs for over 500,000 households in the greater Sacramento Valley.

The Sutter project was designed to establish a new environmental benchmark as the cleanest natural gas power plant ever licensed by the California Energy Commission. This plant also will conserve precious natural resources by utilizing 40 percent less fuel than the typical plant in operation today. As discussed below, this project was unfortunately delayed by one single individual living approximately 100 miles from the plant who was able to abuse the permitting process and hinder the timely construction of this project.

Early in January 1998, Calpine filed an application with EPA for a Prevention of Significant Deterioration ("PSD") permit under Title I of the Clean Air Act to build the Sutter power plant. As evidence of its commitment to be a responsible corporate citizen in the communities where we operate new power plants, Calpine had proposed to partner with Sutter County to help its citizens enjoy the wide-ranging benefits of this new plant. For example, Calpine had committed to provide Sutter County with \$2.5 million over ten years to assist the County with its ongoing efforts to improve levees and provide enhanced protection from flooding. Calpine also com-

mitted to providing funds for much-needed fire-fighting and emergency response equipment.

Following our action, EPA Region IX eventually solicited comments in June 1999 on its decision to issue a permit granting approval to proceed with the construction of the new Sutter plant. During the comment period, EPA received only one negative comment on the proposed construction of the plant while hearing numerous comments overwhelmingly supporting the need for this plant. The Agency thoroughly investigated this one comment and fully responded in writing, even though EPA itself recognized that the comment was frivolous and questioned whether there was a need to respond to it at all. In fact, many of the concerns alleged by this commenter had no basis in law and had been thoroughly addressed during prior hearings on the project by the California Energy Commission and in the Final Environmental Impact Statement prepared by the Western Area Power Administration.

EPA Region IX subsequently issued Calpine its final "PSD Approval to Construct" on July 21, 1999, with the Sutter project establishing a new more stringent benchmark for the "Best Available Control Technology" standard for emissions. In granting this permit, EPA determined that the emissions from the plant would be well below the maximum allowable standard as defined by the National Ambient Air Quality Standards.

Remarkably, despite EPA's (as well as every other necessary local, state, and federal agency's) approval, construction was again halted and further threatened by another claim for appeal. Having failed in several previous attempts to block construction, the same individual commenter whose arguments had been rejected on several previous occasions appealed EPA's decision to issue the PSD permit to the U.S. Environmental Appeals Board. It is important to note that this appeal, which arrived on the last day of the appeal period, did not focus on federally-enforceable air permit issues; instead, the comment letter might be fairly characterized as a general letter of opposition to new power plants, not an appeal of the specific federal air permit for the Sutter plant. Nevertheless, under the Board's review procedures, this appeal, regardless of merit, forced EPA's Environmental Appeals Board to delay issuance of the final PSD permit, effectively creating a "stay" of any construction of the new Sutter plant until the appeal was heard and reviewed.

Mr. Chairman, in all due respect and despite the Appeals Board's policy to give priority to PSD petitions for review, working through the federal bureaucracy is a slow, arduous, and expensive process. The mere fact that no new claims were presented at all in this appeal and that EPA and other regulators already had fully considered this claim several times before should have resulted in an immediate denial of this appeal. But no such action was forthcoming. Instead, due to its considerable backlog of cases, it can take the Board many months to consider an appeal regardless of its merits, causing companies many millions of dollars and valuable lost time while awaiting a decision to construct. Further, the Appeals Board's appeal process does not currently allow for a motion for summary dismissal of frivolous claims.

The inability to engage in construction activities coupled with the lack of a summary process meant that virtually all construction planning came to a grinding halt at the Sutter project. Due to this automatic "stay" on construction, Calpine lost millions of dollars tying up construction equipment and personnel, and a power plant critically needed in California was unreasonably delayed. Finally, after nearly another four months of pleading our case, the Board denied the appeal on December 2, 1999, ruling that the claims in the appeal lacked any merit whatsoever.

EPA and its independent Appeals Board are not the only federal entities that can contribute to construction delays; other agencies also pose procedural obstacles. Calpine has read Senator Pete V. Domenici's (R-NM) recent letter to President Bush in which he astutely recognizes that EPA and the Departments of Energy and the Interior "approach each issue from the perspective defined by their own specific, narrow agency interests without considering the impact on energy supply." We wholeheartedly agree with your statement, Senator, and with your conclusion that "That must change." Having shared an EPA war story relating to our Sutter power plant project, let me share another war story that helps to prove Senator Domenici's point.

METCALF ENERGY CENTER PROJECT

Another prime example of the possible problems caused by the current regulatory process is the Metcalf Energy Center project in the Silicon Valley region of California. This project involves a new 600-megawatt facility in San Jose that will provide enough electricity for a community of 600,000 people. If constructed, the Metcalf En-

ergy Center would provide electricity sufficient to serve two-thirds of San Jose's average power demand and could be operational by early 2003.

The Bay Area has not had a major power plant built since 1972, while the population has grown by more than 50 percent. In fact, San Jose currently consumes over 2,500 megawatts of power that is generated elsewhere while it is capable of producing only 165 megawatts itself, resulting in less reliable and lower quality electrical service, ironically for the nation's most high-tech region.

This proposed new energy center is desperately needed. San Jose is considered the most generation-deficient area in California and, therefore, it is the most vulnerable area to blackouts. The California Independent System Operator ("CAL-ISO") has deemed the Metcalf project to be one of the top two priority projects in the State. If the Metcalf project could have been on line last June 14, it would have prevented the blackouts that took place in the San Francisco area at that time.

In essence, the Metcalf Energy Center was intended as a "showcase" project in our hometown of San Jose to set a new standard of excellence for air quality and recycled water usage within the power generation industry and it would be cleaner than any plant its size ever licensed in California. Unlike many other power plants, this new plant has been designed so that there will not be a visible water vapor plume. Further, the Metcalf Energy Center would include more than \$10 million in visual enhancements; the main structure would resemble high tech office towers and over 800 new trees will surround the site. The site also is shielded from residential neighborhoods by a 350-foot high hill. The site currently is a junk yard and is undesirable for most development, and is in fact located directly across the street from the Pacific Gas and Electric Company's 40-acre Metcalf substation, the main hub for electricity in the South Bay. This large substation and associated transmission towers are equipped already with high capacity lines that have been located there for over 50 years.

With all of these features, this new energy center plant has been overwhelmingly supported by a majority of stakeholders, including the local chapters of the American Lung Association and the Sierra Club as well as other health and environmental groups, the NAACP, major Silicon Valley corporations, local unions, consumer groups, local businessmen, and over 26,000 local residents and property owners. The staff of the California Energy Commission noted that "the benefits resulting from the approval of the Metcalf Energy Center would be substantial" and recommended approval of the project. This truly is an ideal site and situation for building a new power generating facility.

To summarize briefly, the Metcalf Energy Center would not create a health risk to anyone, anywhere, at any time. It has enormous environmental benefits such as:

- Emissions are so small and dispersed so high into the atmosphere as to render them undetectable at ground level.
- The Bay Area Air Quality Management District found that the project does not pose any threat to public health and determined that the project uses Best Available Control Technology ("BACT") and in many cases significantly improves upon applicable air quality standards.
- The project does not require new transmission towers, routinely one of the most expensive and environmentally detrimental aspects of new power projects.
- The Metcalf Energy Center will use and evaporate an average of three million gallons per day of recycled waste water and will greatly assist the City of San Jose in meeting strict discharge restrictions into the San Francisco Bay and improve the South Bay salt water habitat for two endangered species.
- The project will reduce local high tech companies' reliance on diesel fuel to run back-up generators, few of which have any pollution controls.
- Calpine also helped to purchase 116 acres of adjacent land that will remain as open space by collaborating with The Santa Clara County Land Trust (and another 15 acres on Coyote Ridge nearby).
- Traffic and housing impacts from the project are minimal, due to a small work force averaging 24 people per day.

However, this seemingly ideal location and decision to build the Metcalf Energy Center is currently being held up on a number of local, state, and federal fronts—two of which involve federal regulatory approvals. The first is a "Biological Opinion" that must be issued by the U.S. Fish and Wildlife Service under the Department of the Interior. By statute, the Fish and Wildlife Service must provide a biological opinion granting or disapproving of the project within 135 days of the date it receives the application. If the Fish and Wildlife Service adhered to this schedule, it would have rendered its opinion by August 2000. Even though all of the issues raised initially by the Fish and Wildlife Service have now been settled—at the latest by September 2000, an opinion still has not been rendered over four months later.

In fact, Calpine has been informed that no opinion will be provided for many weeks to come. Calpine understands that our submission is not atypical and that the Fish and Wildlife Service routinely exceeds its statutory deadline.

Second, because of the Fish and Wildlife Service delays, the Metcalf project has also been seriously hurt by EPA's inability to move forward on the required PSD permit. We are unclear as to why the analyses required under these permitting procedures could not be managed simultaneously.

Federal delays also tend to foster local delays by providing additional time for project opponents to mobilize and encourage other "Not In My Back Yard" or NIMBY complaints. Calpine and our development partner, Bechtel Enterprises, have been embroiled in a well-publicized debate with one of the world's largest high-tech companies and a vocal neighborhood activist group, which played a role in the ultimate denial of the Metcalf Energy Center project by the local City Council. These intervenors have taken every opportunity to impede and derail our progress on the project. Since early 1999, Calpine has participated in over 50 public meetings or hearings addressing the Metcalf Energy Center project in order to respond to questions and reassure local communities; over one dozen additional hearings are still planned. The Company has responded to over 300 written data requests to date.

Due to the inordinate amount of obstruction in this case, the Metcalf project is not scheduled to receive a ruling until this summer, more than two years after the application was originally submitted to the State. Without the regulatory challenges and other complicating factors encountered to date, Calpine would likely have been actively constructing this vital power generating facility today. In its editorial last Friday, the Mercury News in San Jose characterized the initial failure to approve the Metcalf Energy Center as "dumb" and the continued failure to approve the project as "dumber." Special interest opposition is further characterized as "short sighted and parochial."

BENEFITS OF NEW GENERATION OF ELECTRICAL POWER

Calpine is prepared to invest in excess of \$5 billion over the next five years to expand power production in California, adding over 10,000 new megawatts of power for 10 million households. We are committed to spending our investors' money productively toward achieving beneficial goals that include reliable, low cost, and environmentally-responsible power. In essence, Calpine believes that the development of a modern fleet of power generation facilities will yield important benefits for our nation in four principle areas:

(1) *Reduced Costs to Our Consumers*

Technological advances in the power generation industry now make it possible to generate power using 40 percent less fuel than the typical utility-style plants that were built in the 1960s and 1970s. Because fuel comprises over 85 percent of the variable operating cost of a plant, the reduced fuel use translates into lower overall costs. Calpine's plants also use highly efficient systems that require less heat than traditional plants to produce the same amount of electricity.

(2) *Conservation of Resources*

By burning 40 percent less fuel while generating the same amount of electricity, modern power plants will significantly reduce our nation's consumption of fossil fuels. These important resources can then be conserved for future generations of Americans.

(3) *Enhanced System Reliability*

The explosion of the digital economy has sparked an increase in growth for electric power as well as the need to ensure that our electrical system can provide reliable sources of power. Unfortunately, the nation's lagging development of new power generation and transmission facilities has put us in our current crisis and prevented the development of a highly-reliable and efficient electrical power service.

According to past industry norms, a typical utility standard would provide electrical service with an average reliability rating of 99.9 percent. This level of performance would translate into customers facing average outages of approximately eight hours each year. However, new, high-technology operations demand a much higher level of electrical service; typical internet and high-technology businesses now require service with a reliability rating of 99.9999 percent, the equivalent of having power outages for only a matter of seconds each year.

Power shortages and blackouts have dramatic impacts on our economy. However, modern technology and power capabilities can allow us to greatly enhance the reliability of electrical service.

(4) Reduced Environmental Impacts

Technological innovation has led to dramatic environmental improvements in electric power generation. Modern natural gas-fueled plants now typically emit air pollutants at a fraction of what were emitted into the environment by older plants. Our new modern projects can provide the following benefits compared to emissions from the typical fossil-fueled power plants built in the 1970s:

<i>Pollutant</i>	<i>Reduction in emissions, pounds per megawatt-hour</i>
Nitrogen Oxides (NO _x)	90+% reduction
Carbon Dioxide (CO ₂ , greenhouse gas)	40% reduction
Sulphur Dioxide (SO ₂)	99% reduction

CALPINE'S RECOMMENDATIONS

To help achieve our nation's overall energy goals, Calpine offers the following suggestions to the Committee. These suggestions are aimed specifically at improving the current burdensome regulatory procedures and not at the substantive environmental requirements themselves.

First, Congress should take steps to ensure that the PSD program under Title I of the Clean Air Act is revised to eliminate the long delays—sometimes in the form of an “automatic stay”—triggered by permit challenges by various allegedly “interested” parties where all of the key issues already have been thoroughly and extensively reviewed several times before by the appropriate governmental agencies. The PSD program is a detailed pre-construction regulatory review program under the federal Clean Air Act that applies to proposed new facilities such as electric-generating facilities that will be located in areas of the country that have good air quality (i.e., areas that “attain” applicable federal air quality standards). The PSD review process often can take more than a year, and in many instances, several years to complete. The public is allowed to comment at numerous points in the regulatory review process.

For the past eight years, EPA has talked about streamlining the PSD and the related New Source Review (“NSR”) programs. The Agency has yet to finalize any revisions to its PSD rules, and the fate of the Agency's proposed reforms is uncertain. In fact, the directors of 12 state environmental agencies (Alaska, Idaho, Illinois, Kansas, Louisiana, Michigan, Montana, New Mexico, North Dakota, Oklahoma, Ohio and West Virginia) recently notified EPA that they are dissatisfied with the Agency's recent PSD reform efforts, and have urged EPA to implement “major reform” so that a simplified PSD and NSR regulatory program can be established that provides affected parties with timeliness, certainty, and flexibility, while still protecting human health and the environment. We echo these states' concerns, particularly with respect to the need for increased timeliness and certainty in the PSD permitting process.

Calpine believes that EPA's proposed reforms to the Title V air permit program may provide a useful example of the types of reforms that should be implemented in the Agency's PSD program. For example, over the past several years EPA has been working to provide facility owners with increased flexibility in complying with their Title V permit terms and conditions, defining set timeframes for agency review and completion of proposed permits, and eliminating unnecessary or extraneous permit conditions.

Second, in general we must have clearly defined, standardized, and set deadlines for all federal and state agencies to complete their review of permit applications. We would recommend that all permit reviews be conducted concurrently whenever possible. In order to benefit from new power plants, Congress must help to establish a permitting process that fairly, yet efficiently, allows public input but does not delay or halt deserving projects. Calpine applauds the fact that the Fish and Wildlife Service is subject to a specific 135-day review period, but this and other timelines need to be adhered to by the agencies. If these agencies fail to act within the prescribed timelines, they should then be precluded from further involvement. Calpine also recommends that specific deadlines be established for agency action denying or approving private party challenges to proposed permits. Once a decision is reached on any claim, Calpine believes that it should not be necessary to revisit the same issue again at another stage of the regulatory process.

Finally, EPA should not automatically stay construction of new power plants merely because an appeal of a permit has been filed. EPA should consider issuing

a stay only when a challenge presents clear and substantiated evidence that EPA may wrongly have approved a permit.

CONCLUSION

If our nation is to meet the increased demand for electricity at affordable rates, while still meeting our ambitious environmental goals, we must foster the construction of new, clean power plants. Companies, such as Calpine, understand that in order to construct a new plant, the Company must be prepared to implement some of the most stringent pollution control technologies in the world. We are fully prepared to meet these challenges. However, we are at a loss trying to cope with a permitting process that works against new plant construction and allows individuals to stall construction even after their concerns have been duly considered. Calpine supports public participation and input, but we cannot and should not be forced to delay our projects while we fight meritless claims that already have been thoroughly reviewed and are designed to prevent new construction.

Mr. Chairman and Members of the Committee, I thank you for your time, attention, and the opportunity to share Calpine's insights with you. I would be happy to provide any additional information you may request. Thank you.

The CHAIRMAN. Thank you, Mr. Hildebrand. I want to thank the panel for their statements. They have been very informative.

I would like you to provide us with any specifics such as you indicated, Mr. Hildebrand, with the delay on behalf of the U.S. Department of Fish & Wildlife in expediting permits within the time frame that they say they were going to do it, and I would defer to all panelists to give us some specifics on the role of the Federal Government as a hindrance to expediting the regulatory process under the existing law, and any comments relative to your feeling on the adequacy of regulations to protect the health and welfare and environment and so forth. Obviously, we must maintain that balance.

I would also ask that you provide us with any specific emergency action that you feel the Federal Government should take beyond the energy sales order, which is certainly underway now.

Now, I am going to give myself and the others 5 minutes here, and we are going to try and run through, and unfortunately I cannot go into the depth that I would want to, but we have had many of you suggest that part of the answer is cost-based price caps.

Now, I am here in the role, I think appropriately that we all have of what is the Federal role. I think the States have got plenty of expertise to address what their roles are, but do you agree that FERC should proceed with cost-based price caps, recognizing that FERC's authority is wholesale, and that FERC has already indicated a reluctance because of fear that it will foil, if you will, the competitive market?

Also the concern is, if you put cost-based price caps, will it be sufficient to attract investment to put in the needed facilities, because if you go through this process and come full circle and you do not achieve that, why, you are nowhere.

Do you all agree that cost-based price caps by FERC are in order?

Mr. Bailey.

Mr. BAILEY. Mr. Chairman, I think this also goes to the notion that many have talked about, about just and reasonable rates. Let me describe FERC's traditional role in the cost-of-service model, and that typically is a model that is built around broad averages and determining prices, and it is built around an ability of the reg-

ulator over time to ensure that a supplier or provider of service gets an appropriate return on their investment.

If you look at the powerplants that have been sold, if you look at spot markets generally, sport markets and these plants tend to operate at the margin, and it is really more of a value-of-service pricing model that works at the margin. There will be times when they are worth nothing, and an earlier commenter pointed out power at the margin is dispatched at zero, and just not that long ago.

There will be times when it is the most valuable of the supply, which is what we are seeing intermittently today, and to attempt to apply that traditional cost-of-service model in that marginal pricing environment I think leads very easily to the wrong answers. It is very difficult to do and, frankly, I take significant offense to the notion of price gouging and those sorts of things, because I do not believe that has happened. I think the market at the margin is operating the way the value-of-service or spot market typically operates.

The CHAIRMAN. You do not support FERC coming in with price-based caps?

Mr. BAILEY. I think defining cost-based is difficult. There are times as a supplier when you have no assurance of any recovery. In fact, you have absolute assurance you will not get any recovery. On the other hand, when the power is most in demand and the value of that power is the highest, if you attenuate the pricing at that time, then what you have done is changed the return model for that investor fairly dramatically.

But one thing that I found helpful as we have had our discussions with the legislative leaders in the State and the people at the Federal level, it is simple enough to model what the world would have looked like had these generating facilities, which again are the least efficient, the oldest and the peak dispatch units, had not been sold, if they had simply been there, and what the cost would have been under those circumstances.

What people will find, I think, is that if they compare that cost to the prices that are being charged, there is not a great deal of misalignment, if any, but the perception that these prices have flown up to unreasonable levels is being judged against a standard that is not an accurate standard. It is what the prices looked like 3 and 4 years ago.

So again, we would be happy to submit for the record that modeling that just simply said, had nothing changed, had there been no deregulation in California, but the cost elements of fuel and NO_x been moved to where they are today, here is what the cost would have looked like to Californians, and under that model they would have been passed through routinely.

So I think it is important to again understand where we operate as generators in the dispatch cycle, the uniqueness of the cost models and price models that operate around a spot market or a peak supplier, and that whatever is done is done with the recognition that investments were made that are long-term investments, but against an opportunity to harvest when prices were high, against recognition of the extended periods of time when you have no opportunity to recover your cost.

The CHAIRMAN. Well, I appreciate your explanation, and I agree with you in principle. I guess we cannot get a simple answer relative to whether cost-based price-capping by FERC would result in a stabilization, or whether it would result in a reluctance of potential investment coming in to provide greater generation.

So as we proceed through these questions, and I must defer to my colleagues, because I did make a commitment of 5 minutes, but I wanted to ask both California Edison and PG&E whether or not you anticipate finding it necessary to request the Secretary of Energy at the end of the 10-day period, which I believe is, what, February 7, additional relief from the Federal Government in requesting additional time on the energy sales orders.

Mr. FRANK. I guess from our standpoint I honestly do not know the answer to that, Mr. Chairman.

The CHAIRMAN. We are getting pretty close to that time.

Mr. FRANK. Yes, but it is an issue that is dealt with in the whole reliability of the system, and the responsibility for that has transferred to the independent system operator, as opposed to the individual utility, so it is not a mix in which we have been placed up to this point, and I think that call is really going to have to be made by the independent system operator, not individual utilities.

Mr. KLINE. I agree with that, and in part it is dependent upon progress made in Sacramento in the process that is underway right now.

The CHAIRMAN. Well, maybe that is why they declined to testify, that they knew I might ask that question, so whatever it is worth we will ask them that question, even though they are not here, and we will share the answer with you.

Senator Bingaman.

Senator BINGAMAN. Thank you all very much for coming and testifying. It seems as though everyone has agreed that not only do we have this immediate crisis in California, we have a second wave of this crisis coming this summer, when electricity demand goes up for air conditioning.

We also have another crisis this summer in the Northwest, when we find that all the reservoirs are empty and we need the power. I gather that is what people are saying. Are there some actions the Federal Government should be taking? I have been trying to sort through all of the statements as I have heard them as to what specific things could be done to head off those two crises which are coming down the road at us, if they do materialize, as everybody seems to predict.

Mr. Bailey.

Mr. BAILEY. As I said in my comments, I think the most clear action that could be taken would be a temporary lifting of the air quality limitations on the operation of existing facilities, and there are both Federal and State layers to that, and the reason for that is, if you look at the tools that we have to solve the problem between now and the end of the summer, there is simply the plants that are in place and those that could be brought back into operation.

Senator BINGAMAN. You are talking about diesel-powered plants, primarily?

Mr. BAILEY. No. I think natural gas plants, under the regulations the amount of NO_x emissions available to these plants that were sold that are gas-fired staged down over time, and the amount available this year is less than it was last year, and again, part of that is State-imposed, part of that is Federal, but the key is to—I think the bottom line is to get every generating facility available of any type operating, because that is the only tool you have available on the supply side to address the problem.

Senator BINGAMAN. Are there any other tools on the supply side anyone wants to offer before we move to the demand side?

Ms. JOHANSEN. I might just mention, this is not so much with my PacifiCorp hat on as opposed to my former role at EPA, but one area that needs to be looked at is the spill of water over the dams, passed the dams during the summer migration of the salmon, to assure that that is truly justified from a biological perspective, because about 1,000 megawatts of energy is spilled over those dams in the summer, and I think in a year like this you just have to look at that.

Senator BINGAMAN. Does anyone else have a suggestion about on the demand side? Are there things that would make a difference between now and the summer when these two crises are expected to hit?

Mr. Frank.

Mr. FRANK. I think there are some things on the demand side, and we are prepared to deal with that. Most of it really has to be done I think at the State level. We made a number of filings last summer to sharply increase the size of our demand programs, and they tended to be scaled back almost uniformly by our commission. I think they may have a different view of that today, and we will be making some more filings to expand them.

One interesting idea that I think Mr. Kean brought up which we actually engaged in last summer was the so-called megawatts idea, where we actually pay people not to use electricity based upon a going price, and we actually had some takers on that, and I suspect we might get more, but in the final analysis, sounding like a broken record here, I think that the single most important thing is to have our consumers understand how much they are paying for what they are using, and we are not at that point yet.

Senator BINGAMAN. Does anybody else have a suggestion?

Mr. KEAN. I think Steve is probably right, it is more of a State matter, or the institutions within the State, but purchasing demand reductions and not just for the next hour, but paying people to reduce demand maybe for a block of time, maybe even several months at a time during certain periods of the day, is the fastest way to effectively add capacity, if you will. Blackouts are not voluntary. People do not get to consent to them oftentimes, but paying somebody and giving them the incentive to reduce demand during a certain time is a way to do it in a way that is acceptable to the customer as well as the company.

Senator BINGAMAN. My time has expired. Thank you very much. The CHAIRMAN. Thank you, Senator Bingaman.

Senator Craig.

Senator CRAIG. Mr. Hildebrand, of those new facilities you are preparing to bring online in California, are they all gas-fired?

Mr. HILDEBRAND. The vast majority of them are, yes.

Senator CRAIG. In light of the new cost, and in light of the industry discussion today in the *Wall Street Journal* and other publications that, try as they may, gas supplies are declining, how does that impact your ability to generate, and the cost, based upon what you had originally projected?

Mr. HILDEBRAND. We believe that it is more a short-term issue. The reserves are still there. Current supplies are presently declining. However, the marketplace believes that future prices will be lower than they are today. We are at near all-time historic highs. If you look back over time we have enjoyed a relatively stable natural gas price profile over a fairly distant period of time. Futures markets also represent lower costs than what we see on today's spot market.

So marketplace as well as Calpine and most powerplant developers believe this is an anomaly right now, and over time we are going to be seeing much more competitive gas pricing.

Senator CRAIG. How much of that is based on the fact that there might be new production, when in fact there is very little production coming online right now?

Mr. HILDEBRAND. My understanding is that there is an increase in rate counts across the country, and as well as into Canada. I would certainly encourage the Federal Government to take every action possible to promote additional production, additional transportation, additional LNG, liquid natural gas facilities and programs throughout North America. We do count on natural gas for a significant and growing amount of our country's energy needs, and we need to look after that.

Senator CRAIG. That is exactly what I was trying to get you to say. Thank you. It has to be said. We have been in the business of promoting gas but not producing gas, and somehow I think that time is changing, and it is very important that people in the industry say it to their consuming public and say it to us. Thank you.

Mr. Gale, are you of the group here that would suggest that we do some capping?

Mr. GALE. Well, thank you. That is problematic for us, because we sell and buy in the same markets, and we have gone through our winter where we have been buying, coming into the spring run-off where we hope to sell, and if we run into price caps at the time you hope to offset some of the cost.

Senator CRAIG. Then you could not recoup. Capping to put out the fire, does it start a new one somewhere else, or does it distort a market that should not be distorted where it is currently headed, beyond you guys bidding it up?

I mean, I guess I ask that question generally, and that is part of the frustration. I am sitting here, I am understanding, obviously, the politics and the concern you have against an uncontrolled environment, or a relatively uncontrolled price environment. At the same time, California is being sung a lullaby right now while Idaho and others pay for it. Now, I am not quite sure we want to get Idaho and the rest into the environment of thinking they are, too, in a lullaby. Does anyone wish to respond to that?

Mr. KEAN. I cannot think of a problem that price caps help to solve. You have got some really basic problems here. You have in-

sufficient supply, and you have no demand response. Price caps do not help either one of those. They do not create additional supply and they do not in cent conservation.

The other problem you have is an insufficiency of long-term contracting, or forward contracting, which has been discussed. If you actively increase supply, if you actually build in demand-side response. If you reduce your reliance on the spot market you do not need price caps. That solves the underlying problem.

If you have a price cap in place, what ends up happening is, if you cannot get enough power, whatever State you are in, enough power to serve your load at the cap levels, then you have two choices. Either you can start turning power off, which no one wants to do, or you can pay the price it takes to get the power to come, and so they have not worked. They do not get at the fundamental supply-demand problem that needs to be solved. There are other solutions that make price caps irrelevant.

Dr. KARIER. Senator, I think when you ask people in the industry whether they support price caps or not you find that there is a difference between those who are sellers and those who are buyers.

Senator CRAIG. I understand that.

Dr. KARIER. That may change as we go into the spring and into the summer, but I think what we find is that very few of us would argue for price caps if we thought we were interfering with accurate competitive price signals.

The problem in this case is that they are not. These are signals coming from a flawed market, and so even those that are opposing price caps because of the signal it is giving are admitting that it is coming from a flawed market in the California system. Do we really need prices at thousands of dollars per megawatt hour to incent new plant construction? Do we need prices at \$500 or \$250, and I think if you look at that, those are far beyond what is needed in the immediate incentive.

We certainly do not want to cap prices so low that we would ruin this incentive, but I think we are smart enough to avoid that pit-fall.

Mr. FERREIRA. Senator, we have advocated—the committee has asked what can we do in the short run, and it is clear there is no quick, easy fix to get out of the situation. We are going to do everything we can on the short run on the demand-response, but this notion that in a commodity market you need volatility and you need high prices because that sends a signal for the market to respond, this is not a traditional commodity market.

As you indicated earlier, if you are starting out with \$2 a gallon milk and you jump to \$600, you do not need a \$600 gallon of milk to tell farmers they need to go out and raise more calves. I think you can get the right price signal.

What we have advocated is a price cap which is interim. which does a couple of things. It sends the signal to the marketplace, this is not long term. Secondly, it is high enough to capture the current operating costs, including emissions, and thirdly it provides a necessary incentive to continue to build generation. I think it can be done, and I think it needs to be done.

The CHAIRMAN. Your time has expired, Senator.

Senator CRAIG. Let me close by thanking you, Richard, for recognizing the licensing or relicensing issue of hydro. Most of the industry knows we are working on that now, and I am encouraging that my relicensing bill be included in an energy package. I think it is important that we deal with that issue. That is long term, but we have to think long term, too, and we all know, as you know, and most of you know who have hydro, the reality of licensing is long and drawn-out, and not predictable, and it almost all instances reduces capacity to generate an increased cost of operation, so thank you for making those comments in your written statement.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Senator Craig.

Senator Feinstein.

Senator FEINSTEIN. Thank you very much, Mr. Chairman. Gentlemen and lady, I would like to thank you very much for being here. I would like to use my time to make a statement, to ask you to do something, and then to ask a couple of brief questions.

I do not pretend to be an energy expert. I can tell you I am involved from top to toe in watching this situation. I have designated a lot of staff to do it. I talk with the Governor of California frequently. I have talked with the legislators. I believe the State is fully engaged in trying to remedy the situation.

I happen to support a market that functions, not a broken market. There is some price elasticity in electricity. There is not a great deal. There are a lot of poor people in California. I think the PUC will adjust some rates in addition to the 9 to 15 percent that they have done already. The State will begin to fast-track plants to get them on the market.

To Calpine, I have spoken both to Mr. Chambers of Cisco, I have spoken to the mayor of San Jose. I would offer my services to try and bring the two parties together. The reason I have been given, of course, is that the site is not zoned for the Metcalf plant. I think there is a way to do this thing, and I would be very happy to offer whatever voluntary services might be helpful in this situation.

However, gentlemen, when the people at Sempra tell me that spot power at 3 o'clock in the morning is 500 times higher than it would be normally, that to me in my simple self is price-gouging, any way you look at it, so I am making a request, which you can ignore, as the senior Senator from the State involved, that you go back to your CEO and you ask them please do not price-gouge. Please—California is trying to work their way out of this situation. Give them an opportunity to do so.

I am going to be around here for 6 years, and I am going to be on this committee, and I am going to watch this situation, and I believe that what happens in California will happen in the rest of the States.

Mr. Bailey, I received that Dynergy letter, where 12 generators said that without certain credit guarantees they were going to stop selling, effectively, into California, and that was what encouraged the Secretary to put on the first emergency order, and I want to really compliment the man from the Sacramento Municipal Utilities District, because you really said it as it is, and I think it takes some courage, and I very much appreciate that.

If we could just get a little cooperation from the out-of-State generators, all of you have made a lot of money off of this. Additionally, every plant that I know of, and Reliant is certainly one of them that has invested in plant in California in a generating facility, the plan to amortize investment over 30 years has already gotten their money back, and so a lot of money has been made.

I do not begrudge that. All I am asking, and you can ignore it, is please be fair. Please give this State an opportunity to work its way out. Please recognize that if you are going to sell power at 3 o'clock in the morning and charge 500 times the going rate, there are some of us that might look at that as very real and very profound price-gouging.

If I can figure a way to get through the summer without massive blackouts, and get that additional 2,000 to 5,000 megawatts of power—and one gentleman who testified earlier gave me some ideas, and I want him to know that we will proceed with every one of them. We will take a good look at every one of them. I will talk to the Governor and the legislature about it and see if it can be done. All we are asking for is an opportunity to be able to do the right thing.

Now, you may say, well, she is very naive to say this, but in my 9 years as mayor of San Francisco I had a relationship with CEO's that any time I went to them and asked them to do something voluntarily for the city, I never was turned down, and there was always cooperation. PG&E knows that. Dick Clark was CEO at that time. They always responded. Chevron responded, Bank of America responded, every big corporation in the city.

This is really the first industry I have seen, the power generation industry, that really is willing not to care what happens, not to care about the people that are being thrown out of jobs now, about the small businesses whose rates are going up dramatically, and I can give you case after case after case.

The CHAIRMAN. Senator, your time is up.

Senator FEINSTEIN. All I want to do is ask you to relay that message to your CEO. He can tell me to get lost. That is okay, but if you would just do me the favor to relay that message I would appreciate it.

Thank you very much.

The CHAIRMAN. Mr. Bailey I think wants to respond.

Mr. BAILEY. Senator, I do not have to go home to relay it to the CEO, because I am the CEO of Williams, and again, I would encourage you to consider a couple of things.

One, I understand the cost structure that we have, and as we priced our power that we have made available to the State in the spot market it has been priced just very marginally above our actual cost, and that cost is driven by competitive markets for both gas and NO_x, and that is the reality.

It is not a matter of a traditional sort of utility, and again I encourage you, and will be happy to furnish you with it, what it would look like under the traditional utility model, where the cost of operation of many of those components were simply flowed through automatically to consumers, and we will provide you that information.

The other thing that I guess concerns me is the fact that we are focusing so intensely on such a narrow part of the overall equation, and that is that marginal power that I discussed earlier. There has not been a lot of discussion today about the substantial amount of power that is generated by my friends to the right, that I understand is produced profitably at a much lower price, and is in the mix.

So the dialogue tends to unfold around, again, that marginal power which, yes, in the shortage circumstance is the highest price, but it is not representative of the ultimate realized power of any particular consumer, whether there is an intervening artificial constraint on that pricing or not, and most of what we have done as a company has been to sell forward.

We entered into long-term commitments in the State. We do not consider ourselves an out-of-State company. We have 1,100 employees in the State. We have an \$80 million bank roll in the State. We have over \$400 million of assets, none of which are power-related, because of the way we entered the market through a contractual relationship with the AES.

So again, we understand the economic reality. As a company, in 1999 we consumed about \$1 billion worth of power, and our best estimate is, in 2000 we consumed about \$1.7 billion worth of energy and power. We recognize the impact of that as a business.

But my response to price caps was, the term of art, a price cap as an artificial dart in the dart board, something that says, let's do a cost-base, cost-plus model as a bridge to a competitive marketplace, might have some very logical underpinnings, but to simply put an artificial stake in the sand and say prices should not go beyond that—

Senator FEINSTEIN. Can I just correct the record? My bill provides the Secretary of Energy with either the cost-based rate or the temporary regional price cap.

Mr. BAILEY. But again, I make a distinction between a price cap, which is an absolute limit, and a marketplace that has a lot of competitive moving parts, and a cost-plus model, which says that the people that are there may limit the amount of margin that they incur for some period of time, but they do, under that model, fully recover their cost and have an opportunity for a margin that is a positive margin. That is very different than a hard price cap or soft price cap.

The CHAIRMAN. May I terminate the discussion and defer to Senator Smith.

Senator SMITH. Thank you, Mr. Chairman. For Southern Cal Edison and PG&E, I am wondering, Steve and Steven, if you can tell us if the Bonneville Power Administration will be paid \$130 million for power sales into California in November?

The reason I ask it is, they have got a Treasury payment to make here soon, and I am wondering if they are going to be able to make it.

Mr. KLINE. We are truly hopeful we will be in a position to make those payments. I think at this point our financial situation is well-known. Assuming that the leadership in Sacramento can craft a solution that makes us solvent and gives a path to financial health, that is what our goal is.

Senator SMITH. Steven, we keep talking about conservation as a part of this. Is the crisis that is affecting California and the rest of us, have you seen a reduction in consumption of energy? What is happening in energy consumption in California?

Mr. KLINE. I think as we have stated price signals are very muted because of the instance of the price cap.

Senator SMITH. So there is no reduction in consumption?

Mr. KLINE. I do not think we have seen major reductions, no.

Senator SMITH. I think that kind of answers the question on caps.

Mr. JOHN. Let me just add to that. There was an article in the *New York Times*, I think it was yesterday. In our service territory, SDG&E's, we found this summer when there was not the price cap conservation was in the 9 to 10 percent range. As soon as the price cap went on the conservation went away.

Mr. FRANK. Senator, I guess I owe you an answer for Southern California Edison as well. It is not appreciably different from PG&E's. We are more than anxious to make the payments, and to the extent we can get a solution in California, which hopefully will come within the next week or two, that can restore us to a credit-worthy position and give us access to the credit markets, we are more than anxious to make those payments.

Senator SMITH. Part of what we are focusing on is reduction. I wonder if any of you can speak to whether California has any problems with transmission. Is there a transmission problem here as well?

Mr. JOHN. Again, I can speak for our company. We will be filing with the California Public Utilities Commission an application very soon for new electric transmission in a portion of our service territory that is on the border between Riverside County and San Diego County, and our estimate is under the best of circumstances, if everything goes perfectly, we could have that system in place sometime in 2004.

If we miss that deadline there is going to be a real congestion problem, similar to what is faced right now on path 15 between southern California and northern California, and already we are being told by a lot of people in the Riverside County area we are going to oppose the transmission line because the power is going to end up in San Diego.

Senator SMITH. What would change minds on that?

Mr. JOHN. My personal view, Senator, is that at some point if these facilities are going to get built the State is going to have to override local opposition, and I am not saying that lightly, but if this is really a crisis, the State is going to have to come in and basically say, it is going to get built, folks.

Senator SMITH. Well, the crisis right now has been visited in the Northwest, and I tried to make that point earlier, and I know California and Oregon are exchanging power all the time at different times of day and different peak loads, by the way, but that power is considerably different going one way as opposed to the other.

I keep hearing more plants are coming online, but I also read an account, Steven, where your company tried to put a barge in San Francisco Bay. I wonder if you can tell us about that. Why was that not permitted? Surely—I mean, it was during, we were hear-

ing of potential brown-outs during the Democratic Convention in Los Angeles. It did not happen during any of the speeches. Maybe it should have.

[Laughter.]

Senator SMITH. In all seriousness, that was not allowed to go forward. Would that go forward today? Would you make that proposal today? I understand that would have given light to 95,000 homes in the bay area.

Mr. KLINE. I think that, Senator, when we made that proposal there was not a full understanding of the dimensions of the current crisis. I would hope that if that proposal were made today there would be a different response, but I could not guarantee it.

Senator SMITH. We heard earlier about a San Jose plant being opposed. I guess my question is, what is it going to take to change the attitude there?

The CHAIRMAN. If the lights go off.

Mr. FRANK. The chairman said it. The fact is, in southern California, Edison's territory, not only have our customers not felt any price impact, they also have not felt any loss of power because we have not had rolling blackouts, and there has been no impact on customers, and so therefore no particular reason for them to change their behavior.

Senator SMITH. So is California doing enough?

Mr. FRANK. No, not at this point, but I think Senator Feinstein makes a good case that everyone I do believe today is fully engaged. It may be later than we would have liked it to be, but everyone today is fully engaged and working on the issue.

Mr. JOHN. The only other thing I would like to add to that is, everything we have been saying, at least on this side of the panel. It is an integrated effort. One without the other is not going to work. You need the long-term contracts, you need the retail rate caps removed, you need an expedited siting process for generation and transmission, and you need conservation. They all have to go together.

Senator SMITH. Thank you. I am out of time.

The CHAIRMAN. Thank you.

Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman, and thank you for including in this panel discussioners from the Northwest. It is great to see Mr. Wilcox, Mr. Crisson, and Ms. Johansen here. Thank you for your testimony, which I did review.

Mr. Crisson, your discussion about the Tacoma situation, I read in your testimony your support for price caps. I do not know how much you elaborated on that in your testimony or in answering questions, but I am interested, because obviously the rate increase that Tacoma has looked at 50 percent for residential rates, 75 for industrial, there has been some discussion that in the future you plan to place more load on BPA, which has also announced their own rate increases, so I guess I am looking for further elaboration on the short-term impact and your ideas on more immediate solutions for us.

Mr. CRISSON. I would be glad to, Senator Cantwell. As I said in my testimony, short term we would advocate a cost-based pricing. There are some problems with price caps. However, we are advo-

cating measures that would be temporary in nature and short term. Let us try the cost basis first, which would allow recovery of variable cost and a reasonable rate of return, but there may be the need for caps under certain circumstances, and I believe, as Senator Feinstein pointed out earlier, her legislation allows for either.

This is something that is necessary in the short term, as a practical matter, to avoid insolvency for some of us in the Northwest. I mean, we are not going to be taking our 50 percent surcharge off if we have cost-based pricing or price caps, but it might allow us to avoid borrowing \$100 million that we are going to have to pay back over the next couple of years.

As far as caps impeding price signals, I beg to differ. Our customers are getting a very strong signal right now, with a 50-percent surcharge. We are hoping we do not have to increase that in October, when Bonneville's increase takes effect. As I indicated earlier, Seattle City Light is contemplating increasing to 75 percent in Tacoma and in Seattle and other parts of the Northwest. Our customers are getting very strong price signals. The problem is not the price signal. The problem is whether the customers can survive the price signal in the next few months that has us concerned.

We are also actively promoting conservation in other ways, as I outlined in my testimony, as well as pursuing new sources of supply, and we are actually exploring a power buy back with our retail customers now and, as Mr. Wilcox pointed out, BPA is actually engaged in that kind of a program already with the direct service industries.

Senator CANTWELL. I might add, about that BPA increase, that is 60 percent, but in 1 year they are looking at a 95-percent increase.

Mr. CRISSON. That is correct. The proposal was an average of 63 percent over 5 years, with the first year being over 90 percent.

Senator CANTWELL. So we are already seeing in the Tacoma area, and the broad scope of your service, too, it is quite impressive with the click network and everything that you have done on the new technology front, but we are seeing businesses impacted in that area today, job loss today.

Mr. CRISSON. We are already seeing impacts, that is correct.

Senator CANTWELL. Mr. Wilcox, did you want to add anything to that?

Mr. WILCOX. Bonneville's rate increase is a huge problem for all of Bonneville's customers. Just to give you some numbers, and we cannot solve the demand problem in California, but we can—it is a Federal issue. We deal with Bonneville in the Northwest. It could be an example for California.

Bonneville right now, about 80 percent of its power supply has a cost of \$25 a megawatt hour. The next rate period they have to go out and buy 20 percent at a cost of over \$125 per megawatt hour. They can either meld that all together and get an average rate of \$45, which hurts everybody, or they can give each individual customer a price signal at the margin and say, we will sell you the vast bulk at the lower embedded cost for existing resources and at the margin you will have to pay the full cost of that additional consumption, and that gives people the ability to respond individually, to save energy in a responsible way.

The system we have now is, it is kind of use it or lose it, and you do not get the price signals. You do not get the demand response, and prices go up, so we need to use Bonneville as an example of how you can deal responsibly with the power crisis on the West Coast.

Senator CANTWELL. I can see my time is almost up, Mr. Chairman. I just want to add that yesterday our Attorney General in Washington State took action in announcing an investigation of price manipulation and unfair business practices in our State, so we are at all fronts in Washington State, as in California, trying to deal with this issue, and so again I appreciate that the Northwest members were allowed to be a part of this panel.

Thank you.

The CHAIRMAN. Senator Wyden.

Senator WYDEN. Thank you. A question for PG&E. I have heard you say, and it has been a point of contention today, that you all have not defaulted yet in the payments that you owe in the Pacific Northwest, but isn't the fact that you have given billions of dollars to your shareholders described in the newspaper this morning, isn't that action going to make it tougher for you to repay the people in my region, a question for the PG&E witness.

Mr. KLINE. Senator, I have not seen that article you are referring to. I assume it is referring to the audits that the public utilities commission—

Senator WYDEN. Well, just think about it.

Mr. KLINE. And to my understanding there is a huge amount of misunderstanding about what those numbers constitute, but if you look at how dollars are segregated between the utility and other parts of our corporations it is very clear that the obligations of the utility are the obligations of the utility. Those dollars are being accrued in accounts and historically they get paid by the utility.

Right now, in essence the utility has been financing for customers the difference between what we have been able to recover in rates and what we charge our customers and the much higher number of the prices in the marketplace, so they are two very separate things.

The cost you are referring to is balancing accounts, and the minute we are in a position to pay them, believe me, we will be very happy to pay them.

Senator WYDEN. Well, again, I will tell you, I will look at any specifics and the way you segregate these accounts carefully, but I will tell you that my constituents read about something like this, that describes billions of dollars going to shareholders, and then they listen to the answers that have been given repeatedly about the difficulty in terms of repaying the Northwest, and that you cannot give us the assurance, and that is why we are so troubled by all of this.

And I guess it leads me to the other issue I feel so strongly about, a question for you, Dr. Karier and Mr. Kean of Enron, and that is, I think it is time to make sure that people can get some relevant data about what is going on in this field. I think it is important to keep the lights on. Do you agree with that, Dr. Karier?

Dr. KARIER. I certainly agree, and that has been one of the proposals from the council, is we need much better information, espe-

cially in a situation like this, where a lot is happening, the market is volatile, people are really demanding to have that kind of information, and we cannot provide it. We have been frustrated on several accounts. One is trying to explain why some plants are down and out of operation, and also in trying to forecast just the short-term reliability of identifying what generation is going to be available next week and forecasting the loads in order to predict whether or not we should be putting out calls for emergency conservation, and so I think information is critical in that case, and it is going to be essential to keep the lights on.

Senator WYDEN. Mr. Kean.

Mr. KEAN. I agree, absolutely. It is particularly important to understand where the transmission restraints are so that people can start to look for ways to work around those. Getting data in a timely fashion so that people can do the modeling and figure out what the solutions are is vitally important. That is something that the Federal Energy Regulatory Commission can make happen as the ISO remains under their jurisdiction, and I would encourage Federal action in that regard.

Senator WYDEN. This is one thing, Mr. Chairman—and I see the chairman is occupied. I think this is one thing that we can do.

The CHAIRMAN. I am listening carefully.

Senator WYDEN. I appreciate that. This is something the U.S. Senate can do that does not cost any money. It is clearly consistent with a variety of different approaches, and it would frankly provide some real assurance to people in my part of the world that we were not seeing various kinds of money laundering schemes going on in this field.

And I will look, Mr. Kline, at how you all segregate your accounts, but I will tell you, when I read this morning's story and then I listen to how you are going to have difficulty making repayments, it is hard not to reach the common sense conclusion that those repayments to the Pacific Northwest, those kinds of considerations need to come first, and it looks to me, as I read the morning paper—and I am not saying these transactions were illegal. It just seem to me the shareholders came first.

Mr. FRANK. Senator, let me respond as well. The article you referred to actually dealt with my company, Southern California Edison, and was a result of an audit that was made of our finances at the request of the public utilities commission, but an audit which we actually commissioned, if you will. We suggested they do it, and the numbers in question, the billions of dollars you refer to—

Senator WYDEN. This was in the paper.

Mr. FRANK. Yes, in the paper this morning, are basically, as Senator Feinstein characterized them earlier, normal course of business. These are dollars that were paid in dividends to shareholders over a 5-year period of time, most of which was a period that we were not in this crisis.

The balance of the dollars had to do with the return of money to lenders and investors who had invested in powerplants that we were required to divest, and the public utilities commission required us after that to seem our same capital structure and balance

it. We had to shrink the company as a result of commission decisions, and the money simply went back to lenders and to investors.

It is not any different than what you do to buy a house and mortgage it, and you sell that house, you pay back the lender. That is where the money went, and so the suggestion that there was money laundering, if you will excuse the expression, there is no mystery here.

Senator WYDEN. I cannot tell that, and that is the problem. What I can tell you is—

The CHAIRMAN. You are listening to the witness tell you. That is the point of this hearing.

Senator WYDEN. He has given us one explanation, but as Dr. Karier and the folks from Enron said, this is a field where there is virtually no data available, so one of the ways we can actually get to the bottom of this, and it does not cost any money, is to look at what is essential to make free markets work, and that is good information.

What is really at risk are jobs in my part of the country because energy prices have gone up so high and we continue to ship energy to California.

Thank you, Mr. Chairman.

Mr. FRANK. Let me beg to differ on one other point. I do not think any of the other witnesses were making a case that in the issue that you are talking about there is not adequate information available. We have had an independent audit done of it, and that is what was reported on this morning, and so I do not think any of these other witnesses are taking any exception to the amount of information that is available.

Senator WYDEN. What I said is, one U.S. Senator, I read this morning's paper—

The CHAIRMAN. Let me remind you time is up.

Senator WYDEN. Thank you, Mr. Chairman.

The CHAIRMAN. It would be beneficial, I think, for the record for you to submit—and I know the State of California has all of your records, when you were mandated by the State of California to sell all of your nonnuclear and nonhydro facilities, what you did with that money. Obviously, it belongs to your shareholders.

Mr. FRANK. And our lenders.

The CHAIRMAN. Senator Thomas.

Senator THOMAS. Thank you, Mr. Chairman.

Well, obviously the immediate issue is at hand, but so is the future, and so I was a little—this morning in the panel they talked a lot about signals, price signals, and that they should be able to tell them 3, 4, or 5 years ahead of the prices.

Tell me, from your point of view, who is responsible for reading the signal? Was the signal read? Why wasn't something done?

Mr. KEAN. I can take a first crack at that. I would not surmise that anybody expected the full impact of the demand growth in California, therefore the impact on available supplies, but it was clear that new generation was going to be needed in the State, and many investors and developers stepped up to site additional generation in the State. In fact, thousands of watts more than the actual incremental increase in demand was proposed.

The difficulty has been not a lack of interest, not a lack of, I guess, getting the signal, if you will, to build new generation in the State, but instead the attempt to build generation has been slowed down significantly in California by the way the siting and permitting process has worked.

So a good contrast to that in the Midwest, a couple of years ago, in fact it was in front of this same committee, we had just seen price spikes in the Midwest. Those price spikes signaled additional generation requirements. Generation came on within a 12- to 24-month time period. Within 2 years, things were very much settled back to normal, and I think that is what you are going to ultimately see in California if supplies are allowed to come online.

Senator THOMAS. In the past, where you had energy, electric energy pretty well controlled, when you decided to build a generating plant you were promised pretty much by the State agency that your fees would be such that you could pay for it. If that is not the case, then is that the problem, and what is the solution to that, long-term contracts?

Mr. KEAN. Long-term contracts are certainly part of that. I think that even if utilities were attempting to build generation today, under an old regime, if you will, they would still be having these same kind of problems. It is not any easier to get a facility sited, because you are an investor-owned utility.

Senator THOMAS. So you do not think there is reluctance on the part of the generators to build?

Mr. KEAN. No, absolutely not. There was an over-exuberance to build, I think, but it remains extremely difficult to get facilities built, I have to tell you, from my perspective. I am not a generator in the State.

The CHAIRMAN. What we are going to do is, Senator Bingaman and I are going to make a short closure that will conclude the hearing.

I want to thank you all for your willingness to give us enlightenment, and I think it is fair to say that, while we are sensitive to California's needs, the solution in California that is being developed now has yet to be finalized in relationship to how the investment community is going to see its adequacy to invest in new additional facilities, because what we have got here are two things.

We have got an energy insufficiency, if you will, in California from the standpoint of generating facilities, and the ability to attract energy from outside California becomes a credit problem, and the fact that the administration has guaranteed in one sense, by ordering the energy sales of natural gas which extend to February 7, and electricity, which extends to February 7 as well, with five extensions, puts all the residents of the United States at risk if, indeed, the California utilities cannot pay for that energy.

Obviously, those that are ordered to provide that energy are somewhat reluctant, inasmuch as it might be up to 2 months before they know if they are going to get paid, and we do not know if the California restructuring effort is going to meet the test that it must.

Now, one of the things that bothers me is the statement from the gentleman from Tacoma that they are looking at rate increases of 50 percent, and the reality that the California average has been a

9-percent increase, but that is somewhat subject to analysis, because there was a 10-percent reduction sometime ago in rates, and then a 9-percent addition, so I am told that the average rate in California for a consumer and industrial is about 9 percent, which is hardly reflective of what others are experiencing.

So the question of how we get the attention of the California consumer in the sense that sometimes it is pretty hard to get things started until somebody's ox is gored—and I hate to use that direct reference, but clearly we have got a situation of inequity here, and it is up to California, along with the role of the Federal Government, in an appropriate manner to assist in that, because, as we have seen from testimony, other areas of the country are experiencing severe exposure relative to rates, but still we have to generate more power. The question is, are we going to have to do that through emergency regulations, or waivers, or expediting permits, or all of the above?

I am also concerned about a couple of other things. This suggests it is going to get worse. Judi Johansen, formerly associated with Bonneville Power, I understand that our U.S.-Canadian treaty regarding the development of the Columbia River Basin expires in 2002. Now, if you really think about that, and the contribution Bonneville makes in the Pacific Northwest, we use Canadian water to spin generators at U.S. locations down-river. We get that power until the year 2002. After 2002, Canada has title to that power, so Canada will not actually take the power. They will just sell it to us, and we will pay the piper whatever the rate may be.

So the point is, the exposure here is significant, and we have got to face up to it, because this article that was referred to by one of my colleagues earlier with regard to natural gas—and it is the *Wall Street Journal* today. It says, natural gas producers report that outcome continues to fall. All high natural gas prices drive up heating and other bills. Producers of the fuel are reporting that production continues to decline, suggesting that today's high prices will not be falling significantly any time soon.

And you know, we focused our entire energy outlook on natural gas, to the expense of coal, clean coal, nuclear to some extent, oil, hydro, and we simply cannot do that any more, so we are going to have to come to grips with reality. The environmental community is going to have to recognize that it, too, has a responsibility to come up with some alternative suggestions that are real. We cannot do it by conservation alone, and that is just the harsh reality.

I do want to again thank you. There are many other questions we could go into, but I think we have done a pretty good job laying out the fact that there is a problem here. There is a problem for California, there is a problem for the Pacific Northwest, and a problem for the rest of the Nation with regard to the energy crisis that is upon us, and it is like a cancer that will spread.

We can have all the public hearings we want, but we have got to induce capital to invest in energy production, and as far as I am concerned the State of California is going to have to address its responsibility to somehow guarantee the legitimate indebtedness that has occurred in the resale of power, which California consumers have had the benefit of, because if we do not, you are going to see a bankruptcy judge dictating the terms and conditions under which

the California consumers are going to set the rates. I do not see any other alternative.

Again, let me thank you, thank Senator Bingaman. I am going to allow Senator Domenici, who has been at an extended hearing of the Budget Committee—he was here at the beginning, to—why don't we just let the two New Mexico Senators conclude this, is that fair enough?

Senator DOMENICI. Jeff, you do not have to stay around for me.

Senator BINGAMAN. Well, I think probably the other Senators here would like to make a short statement before we conclude. Why don't we let Senator Domenici make his statement, or comments, or questions, then, since he has not had any chance.

Senator DOMENICI. Thank you very much. First, like everyone else, I think it has been a good meeting, and the two of you are to be complimented for calling this hearing and putting on the kind of witnesses we have been privileged to hear. I myself am going to say to the California Senators and the people who are most adversely affected, it is spilling over into my State, too, and I must say I could not have been here. I had to preside over a presentation of the budget from those who are most informed, the Congressional Budget Office, and that is my job and I had to do that, but I want to make just a few observations.

First, I want to thank all of you for your testimony and for your help. I want to start by saying thank you to the President of the United States. He has only been in office a little over 10 days, and I believe he has done exactly the right thing. He has asked the Vice President to head a task force with those from various Departments that have an interest in energy, and then he staffed it with some very expert people, and he has asked for the facts, and some recommendations regarding California. I do not think we can expect much more, considering that he just went into office.

The crisis is here, and California is still confused. I do not mean to say that in any pejorative sense, but they do not quite know what to do yet, and I think they are thinking it out. In the meantime, to have the White House thinking it through I think is a very good posture to be in. I believe we have—number 1 we will get some real answers, and we will get some real recommendations, and realistic in terms of whose job it is to do what.

I know how this can spread and how it can affect the economy, and so I am as worried about it as the Senators who are most adversely affected, and I will do my share to try to help out, but it is obvious to me, and I take a great deal of pleasure in saying that I have been speaking to this matter for at least 2½ years that I can recall on the floor, maybe twice, three times a year.

You know, it is sort of like talking about the budget. Even if you are chairman of it, until Alan Greenspan repeats your words, nobody knows what you said. So whatever I have been saying is about the same as Alan Greenspan on the budget, but until he testified the other day, the world did not know. Some of us knew about that and were worried about what he was worried about for a long, long time.

But I have been suggesting that the United States was making a very serious decision as a country and certain States as States, and that was to not recognize that we have a huge supply shortage.

It is coming on us like a bow wave, but it is not because we do not have energy. We have plenty of energy in America. There is no excuse for policymakers to let America be in this position, California and the rest of the States included in that.

We have to make policy decisions that say, yes we can produce more energy, rather than, it does not matter, we are deciding policy without concern to energy, and we must diversify. Now the answer is natural gas. I can say to all of you from my State, and Senator Bingaman as my fellow Senator, we are producing natural gas as fast as anybody can get out in the field, but nonetheless, it is not right for America to be depending upon that kind of fuel for the next 10 or 15 years, and I would suggest it is not right for California to assume that their new powerplants will be natural gas.

We are going to have to have a mix, a mix between clean coal, between gas, and obviously we have to put some basic research on nuclear power back on the burner. That is being done in the world, and we are frightened to death of it. There is no reason to be, and when you look at it all, we should have an oversupply of energy each and every year. I do not know how the market would deal with that, but obviously we are certainly not dealing with shortages very well.

So I come here willing to do what I can when the President makes his recommendations regarding California, but I also hope that this committee will exercise every bit of jurisdiction and muster to do something about the supply side in the United States and to send out the signal that we are going to have an abundant supply of electric energy to serve our people.

We have been very worried about crude oil imports, and right inside of the United States there are growing shortages have occurred in terms of electrical energy. We spoke more eloquently about being dependent upon crude oil and less concerned and less eloquently about the growing shortage of the energy called electricity that puts lights in our homes and builds our industry.

So the President is probably going to move beyond his task force of looking at California and doing another exciting thing. He is going to ask a task force of the Environmental Protection Agency and the Department of Energy and Department of the Interior and maybe some others to begin an orderly process wherein policy decisions are no longer made on the basis of one mission, but, rather, on the mission that if it is an environmental issue, what about the energy problem that we are going to be confronted with if we make a decision one way or the other, and so it, too, can be evaluated.

I think that is going to be occurring, and hopefully that is what America must do in all of the Departments that have something to do with energy. The Interior Department, when they look at locking up another 500,000 acres, maybe somebody will be asking its energy impact, and looking at that in an objective way so that it, too, can be considered.

It has been my feeling that we have made policy decision upon policy decision that did not take into consideration the energy needs of our country, and had they, we could have adjusted policy and produced more energy and still kept the environment that we want so much to preserve.

Thank you very much, Senator Bingaman.

Senator BINGAMAN. Thank you very much. Let me just ask each of the other members to make a very short statement, if they would. I do not think we want to go through another set of questions here.

Senator WYDEN. Mr. Chairman, I will be very brief. I just want to make two points. The first is on operating information, the second is on financial information.

I hope that our colleagues—and this strikes me as completely bipartisan—will reflect on what Dr. Karier said and what Mr. Kean said with Enron. It is clear, in my view, that you have got to get operating information out to the public in order to keep the lights on and make marketplace systems work. That is point 1.

Point No. 2 deals with this question I was going into with the utility. Here is my concern. You cannot tell a consumer that they are supposed to get pricing signals right now, and then they read these newspaper stories 3 or 4 years later about billions of dollars being transferred. It does not strike them as being very fair, and so what I want to do is work with both sides of the aisle and our colleagues and all of you witnesses, but we have got to have a sense of fairness here.

Those are my concerns.

I thank you, Mr. Chairman.

Senator BINGAMAN. Thank you.

Senator Feinstein, did you have a final statement?

Senator FEINSTEIN. Just two quick things. The *San Francisco Chronicle* has an article that says hundreds of thousands of residents may likely have their natural gas supply cut off. This relates to PG&E. Federal or State authorities to rescue PG&E from suppliers' refusals to provide gas. If I might ask for a written comment from PG&E on this specific article, with as many facts as you can provide. It is a January 28 San Francisco Chronicle article.

And if I might ask any producer that has a plant in California to let me know if your plant is not operating because of air quality concerns, and if that is the case, specifically what those concerns are.

Thank you, Mr. Chairman.

Senator BINGAMAN. Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman. I just wanted to qualify the chairman's statements earlier, Senator Murkowski about Tacoma, that they have actually implemented a 50-percent surcharge, not discussed, which amounts to about a 43-percent increase to residential customers and 75 percent to industrial customers. BPA is in the announced phase but not implemented.

I bring that up because I just want to remind my colleagues that these rates really do translate, as Mr. Wilcox pointed out, into impact on paychecks and the economy of the Northwest, and I will be working with Senator Feinstein on these cost rate solutions and hoping to focus not just on the long term but obviously on some short-term relief for the Northwest economy.

Senator BINGAMAN. Thank you very much. Again, I thank all the witnesses. I do think the hearing has helped us to understand the complexities of this problem.

I think our next step is obviously to pull in some of the Federal officials with authority in this area, the Federal Energy Regulatory

Commission, the Department of Energy, and get their reaction to some of the suggestions, some of the ideas of cost-based pricing of wholesale power on a temporary basis, if that is something that they are looking at.

That is the question that needs to be asked of them, and I know there are many other questions that were suggested in today's testimony.

Thank you all very much for coming.

[Whereupon, at 2:35 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

SOUTHERN CALIFORNIA EDISON,
Rosemead, CA, February 28, 2001.

Hon. FRANK MURKOWSKI,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

Attention: Mr. Howard Useem

DEAR CHAIRMAN MURKOWSKI: Thank you for the opportunity to testify before your Committee on January 31, 2001. Per your request, enclosed are my responses to additional questions posed by Senator Ben Nighthorse Campbell.

Please do not hesitate to contact me again if I can be of further assistance in your continuing review of the California energy crisis.

Sincerely,

STEPHEN E. FRANK,
Chairman, President & Chief Executive Officer.

[Enclosure]

RESPONSES TO QUESTIONS FROM SENATOR CAMPBELL

Question. Many statements have been made that California's electricity crisis is a regional crisis. I know that when California needed or wanted water they got water from Colorado, now when they need power are they going to take Colorado power? What impact will California's current problems likely have on Colorado and other Rocky Mountain states?

Answer. Economic growth throughout the West has increased demand for power throughout the interconnected Western grid, known as the Western Systems Coordinating Council. Eight of the Western states are listed among the fastest growing states in the U.S. The California wholesale market is broken, and the high prices it attracts have the net effect of increasing prices throughout the West. To the extent that peak loads in California require increased imports from other states, the entire Western grid will be affected. To the extent that the wholesale electricity market in California continues to be broken, the entire Western wholesale electricity market will be affected. This means that:

1. New generation reserves will be required throughout the Western grid to meet demand, and

2. Temporary wholesale price controls are necessary to bring prices in the West to reasonable levels until additional generation can be brought into service and a healthy, competitive market is reestablished.

Question. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. The federal government has jurisdiction over wholesale electricity prices. The Federal Power Act requires that the Federal Energy Regulatory Commission (FERC) provide "just and reasonable" rates in the wholesale market. Because FERC has failed to do this, it is incumbent on Congress to set cost-plus rates to achieve "just and reasonable" rates for the West. Without such action, wholesale electricity prices will continue to rise throughout the West until new generation is added sufficient to meet growing demand. This will likely take two to three years to implement. Nothing else can protect Western consumers from the broken wholesale mar-

ket during the time it takes to build sufficient generating capacity to support a competitive market.

Question. I am skeptical of price caps. Many say they are likely a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. It is true that those looking for the astronomical returns earned by generators over the past 10 months would prefer to keep earning these returns, rather than those that result from "just and reasonable rates." However, despite the presence of wholesale price caps, substantial new generation was proposed in California and elsewhere in the West even before the tremendous price run-ups of the past ten months. Thousand of megawatts of generation have also been proposed elsewhere in the country where wholesale electricity prices are far lower than they have been in the West. Temporary cost-plus rates that provide generators with a reasonable profit, above and beyond their costs, provide the certainty needed for new investment in the short run. The current legislative and regulatory uncertainty in California due to the continued broken market is a far greater disincentive to new investment in generation than is a fixed, reasonable rate of return. However, to alleviate concerns in this area, new generation could be exempted from cost-plus limits, thus eliminating even the perception of a disincentive.

As for the long run, cost-plus rates need not be, and should not be, permanent. They can be limited to one or two years, or be indexed to a generation reserve margin that would create an automatic sunset once the reserve margin is achieved. A healthy market will then provide further incentive for future investment and greater efficiencies.

THE WILLIAMS COMPANIES, INC.,
Tulsa, OK, March 1, 2001.

HOWARD USEEM,
U.S. Senate, Russell Courtyard, Washington, DC.

Re: January 31, 2001 Oversight Hearing of the Committee on Energy and Natural Resources

DEAR MR. USEEM: Please find attached the responses of Mr. Keith Bailey, Chairman, Chief Executive Officer and President of The Williams Companies, Inc. to the February 9, 2001 letter of Chairman Frank H. Murkowski. By the February 9 letter, Chairman Murkowski requested that Mr. Bailey respond to three questions submitted by Committee Member, Senator Campbell. Responses were requested to be sent to your attention by March 2, 2001.

Respectfully submitted,

ALEX A. GOLDBERG,
Senior Regulatory Counsel.

RESPONSES TO QUESTIONS FROM SENATOR CAMPBELL

Question. Many statements have been made that California's electricity crisis is a regional crisis. I know that when California needed or wanted water they got water from Colorado, now when they need power are they going to take Colorado power? What impact will California's current problems likely have on Colorado and the other Rocky Mountain states?

Answer. It is difficult for Williams to determine if power actually generated in Colorado has been transmitted to California as a result of the recent events in the California energy markets. However, on December 14, 2000, former Department of Energy Secretary Richardson issued an Order pursuant to Section 202(c) of the Federal Power Act requiring certain power companies, including Public Service Company of Colorado (New Century Energies), to respond to requests by the California Independent System Operator for generation and access to transmission. This order limited the requirement to sell excess electricity beyond that necessary for utilities to serve their firm customers. Through a series of amendments, including one by current Department of Energy Secretary Abraham, this Order was in place until February 7, 2001. See attached Orders.

In terms of the Western United States generally, it is undisputed that power has been imported into California that otherwise would not have been generated. A significant portion of this power has been generated as hydroelectricity. Other electricity has been generated from natural gas or other fuels. The result of increased hydroelectric generation has been a lowering of reservoir levels throughout the West. Williams is concerned that as a result of the unseasonal demand placed on this resource by the DOE orders, absent unexpectedly high precipitation levels in the next two to three months, traditional levels of hydroelectric production may not

be available this summer. This fact, by itself, will increase prices for both hydroelectric generation and gas fired generation, and potentially cause the spread of reliability issues throughout the West. See attached data showing reservoir and snowpack/precipitation levels for this year relative to past periods. Increased natural gas usage has also resulted in higher prices.

As you are well aware, the spring runoff from Colorado's western slope feeds the Colorado river system and other rivers that flow to the southwest. Much of this water feeds hydroelectric capacity to Arizona, Nevada and Southern California. With reservoir levels in the Pacific Northwest being even lower than in the Southwest, this hydroelectricity will be in high demand throughout the region this summer. Natural gas usage is also increasing, primarily as a result of its use for electricity generation. Gas prices are expected to remain high through the summer. This will also result in higher electricity costs throughout the West. As a producing state, Colorado will see some economic benefit from this activity. However, the extent of the negative ripple effect back to Colorado is uncertain, but could easily result in tighter supplies, higher prices, and reliability issues for Colorado customers. Colorado is linked with California and other Western states in the same electricity grid.

It is Williams' firmly held opinion that the dislocation that may result this summer should not result in renewed government intervention into the electric and energy markets. Rather, as has been conclusively demonstrated in other regions of the country, if both producers and consumers are allowed to react to the markets, we will see increased supply and moderated demand such that any dislocation would be short-lived. Intervention, on the other hand, will prolong California's current problems and increase their likely impact on other states.

Question. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. California is not an island. During peak periods, it has historically imported 20% of its electricity. One reason for the past year's price increase was a significant net decrease in imported power. This decrease was the result of both economic growth outside of California, in states like Colorado, and of the California price caps. Growth in surrounding states meant less power was available to send to California during peak periods. When it was hot in Southern California, it was also hot in Nevada and Arizona. As a result of price caps in California, when prices increased outside of California, power migrated to those high priced markets, not California. More recently, the credit problems of the California utilities have also made some suppliers reluctant to sell power to California. In addition, where California retail rates were frozen, customers were not given any incentive to reduce demand. Lastly, due to south-to-north transmission constraints within California and the West, available power could not always move freely to where it is most needed.

This discussion leads to our suggestions for avoiding the spread of the California issues. First, deal with supply and demand. When examining the electricity issues in California, all roads eventually lead to this basic economic concept. With the appropriate level of regulation, the electricity business will behave like any other commodity. If markets are allowed to develop, new market participants will bring new supply. New supply will drive down prices. Lower prices will increase demand. Supply will tighten. Prices will increase. Increased prices will flatten the demand curve and bring more new participants. The cycle will continue.

In California, the retail market has been locked in a high demand, low price, period of the cycle that could not be maintained. It simply did not contain sufficient incentives for conservation. In addition, without retail customers receiving price signals, the permitting process for new generation was allowed to move so slowly that few proposed facilities were actually constructed. It has only been since the general population has perceived that there was a crisis that the political will has been generated that was necessary to speed the permitting process. Recently, the majority of the rest of the West has started to allow prices to go up. Customers are reacting by reducing usage and the industry is building plants to make more power as fast as they can. New transmission projects are not as far into development, but must not be ignored. It is as important to build new power lines as it is to build new plants. In a competitive market, reducing the barriers of getting product to market provides great price and reliability benefits. The government has an interest in moving through this part of the business cycle as quickly as possible. It can aid in the process by working to amend laws and regulations that will streamline the siting and construction process for new plants and for new transmission as well as providing temporary relief from regulations that limit the operation of any existing capacity during this period of crisis. The government can also aid in providing incentives for demand side management and conservation such as allowing pricing to more fully reflect the actual cost of production, approving block rate programs which

cause each increment of demand to be more expensive than the prior increment, and approving capacity buy-down programs which can be a very effective proxy for new supply in times of capacity shortage. We believe this can be accomplished while still insuring that electricity is always available for communities in need.

The next step in avoiding the spread of the electricity issues from California is to avoid the temptation to repeat California's mistakes. As is discussed more fully below, price caps do not provide any significant benefits and actually will harm market development. Next, while competition will lead to increased supply and lower prices, it does not happen over night. In order to hedge against uncertainty while markets develop, buyers must have the ability to obtain long term energy contracts for a significant portion of their current needs. The costs of these contracts must be allowed to be passed through to customers even if competition may lead to the prices being over market during the last years of the agreements. The certainty in the early years is also balanced by the ability to meet needs brought on by growth with more short-term purchases.

Lastly, California should be encouraged to work more closely with its neighbors and should consider abandoning the California Independent System Operator ("CAISO") in favor of joining a Regional Transmission Organization ("RTO"). Remaining as a single state transmission operator hampers California and its neighbors ability to enhance intraregional power flows, coordinate transmissions planning, and take advantages of greater scale to add the flexibility needed to respond to emergency situations.

While no guarantee against what may be a difficult summer, the above steps will shorten or eliminate the California issues and the spread of those issues throughout the West.

Question. I am skeptical of price caps. Many say they are likely a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. Williams has actively opposed the imposition of any price cap in the electricity markets for several reasons. Primary among those reasons are: (1) Price caps are arbitrary ceilings that have no relation to the cost of production and, as a result, tend to exacerbate shortages; (2) price caps distort market signals and undermine investor confidence necessary to attract new generation; (3) price caps mask signals that are necessary to motivate demand response; (4) price caps fail to provide for recovery of costs, compensate for risk or provide a reasonable rate of return; and (5) price caps constrain supply and threaten reliability.

1. PRICE CAPS ARE ARBITRARY CEILINGS THAT HAVE NO RELATION TO THE COST OF PRODUCTION AND, AS A RESULT, TEND TO EXACERBATE SHORTAGES

Recent history has demonstrated conclusively that when price caps are imposed, they are often set at some arbitrary ceiling that has no relation to the costs of production. This is best evidenced by the Cal ISO's reduction of its purchase price cap to \$250 in mid-Summer 2000 at the behest of those seeking a "quick fix" to high electricity prices. However, as discussed below, such arbitrary action actually reduced supply by encouraging exports, discouraging imports, and causing certain peaking resources to be taken off-line due to an inability to recover costs. Additionally, such arbitrary caps did nothing to mitigate price—indeed, as discussed below, average prices actually increased as the cap was lowered.

Hence, if some form of price control is deemed necessary on an interim basis, it must be cost-based and have an appropriate profit component for the supplier. Power providers must have the opportunity to recover fixed and variable costs, including costs for natural gas and emission credits, as they change from day to day. In addition, power providers must be able to collect some form of profit in order to act as an incentive, not just to maintain the existing facilities, but to be able to compete in equity markets for the capital that is necessary to invest in new facilities. Lastly, any price controls that are put in place state-by-state should include lost opportunity costs that result from keeping power in-state, as opposed to pursuing higher out of state markets. The only way to avoid this issue would be to consider regional price controls.

Moreover, the price control must be truly temporary in nature. Lack of regulatory certainty will reduce any business' interest in any market. While Williams generally opposes any effort to impose price controls, as such is adverse to a competitive market, Williams believes that if price controls must be implemented, they must not be arbitrary or permanent.

2. PRICE CAPS DISTORT MARKET SIGNALS AND UNDERMINE INVESTOR CONFIDENCE
NECESSARY TO ATTRACT NEW GENERATION

Price caps are antithetical to a competitive market, and, rather than operating as an appropriate solution to perceived market flaws, they actually act as a temporary band-aid (but, as discussed below, not a very effective one), only exacerbating long-term problems by threatening reliability, sending the wrong price signals, jeopardizing much-needed investment in generation and creating an atmosphere of extreme uncertainty. A rational supplier may not willingly choose to expose itself to such risks, and a rational generator may not consider entering a market subject to price caps to build additional generation. This is especially true when a market has indicated a willingness to lower those caps in an arbitrary fashion, which has been the case in California on multiple occasions. Because rational generators will seek to invest and sell in more stable markets where the ground rules are known and adhered to over time, the lasting consequences of price caps may come in the form of ever expanding reliability problems. Rather than new, environmentally friendly gas fired power generation being built, price caps encourage a reliance on older, less environmentally friendly, less reliable generation and on the good-will of neighboring states and hydroelectricity.

Price caps discourage generators outside of a price-controlled area from selling into that area because such generators can either obtain market-based prices elsewhere, or they do not wish to take the risk of doing business under an environment subject to artificial price controls. Similarly, generators located in an area subject to artificial price controls are encouraged to export power to higher priced, non-capped markets. Additionally, in times of surplus, as generators bid into the market at prices just under the caps, the purchase price cap may actually become more of a price floor.

Price caps distort price signals, diminish incentives for the correction of market flaws, and are inconsistent with the policy of the Federal Energy Regulatory Commission ("Commission") of encouraging the development of a competitive market. As the Cal ISO stated in its Amendment No. 21 filing, "The ISO's strong preference would be to eliminate price caps completely in its Energy and Ancillary Services markets, so that market participants could receive undiluted price signals that would provide incentives for investment in new generation resources and in enhanced capability of Demand to respond to prices." (emphasis added).

3. PRICE CAPS MASK SIGNALS THAT ARE NECESSARY TO MOTIVATE DEMAND RESPONSE

Artificial price caps do not send the proper price signals in terms of either new generation or transmission or in terms of demand side management, and, consequently, much needed generation and transmission will not be built nor will demand side programs be successful; this must be considered in light of an ever-expanding population and increasing demand for electricity.

Moreover, the Cal ISO's Market Surveillance Committee has stressed that price caps are not an appropriate long-term solution to perceived market flaws. The MSC found that "price caps treat the symptom . . . rather than the causes . . . of California's electricity woes. For this reason we also believe it is important not to set the price cap too low, as doing so could discourage both the emergence of price-responsive demand and the construction of new generation." The MSC continued, noting that "setting the price cap too low can have perverse effects on bidding during off-peak periods, discourages the emergence of price-responsive demand, and operates at cross-purposes with California's urgent need to increase the available supply of electricity." Lower price caps also leave "the ISO and PX at a competitive disadvantage with respect to other buyers in the WSCC market." It should also be noted that customers must feel the price signals that are needed to create demand side responsiveness. Incentives to customers to reduce demand are an integral part of removing price caps.

4. PRICE CAPS FAIL TO PROVIDE FOR RECOVERY OF COSTS, COMPENSATE FOR RISK OR PROVIDE A REASONABLE RATE OF RETURN

Price caps, especially caps set arbitrarily and unreasonably low, fail not only to provide a reasonable rate of return on a generator's investment, they may also fail to provide for the mere recovery of costs associated with generating electricity. Indeed, because the variable costs of operating certain older peaking units exceeded the Cal ISO's hard price cap of \$250, which was in effect from mid-Summer 2000 to late Fall 2000, during non-emergency periods these units were taken out of the market. Thus, consistent with the Cal ISO's stated concerns included in its resolu-

tions authorizing the lowering of its price caps, the Cal ISO's \$250 cap did, in fact, cause the removal of much-needed generation from the market.

Artificial price caps, and the regulatory uncertainty created by the haphazard use of such price controls, therefore have a direct impact on the willingness of merchant power plant developers to generate power for price controlled areas or invest in new generating capacity that is critically needed in such areas. Williams continually assesses nationwide opportunities for investing in new generation; however, Williams is finding it increasingly difficult to justify any new investment in California given the current regulatory climate and tremendous instability. It is Williams' preference to invest in markets where Williams' own efficiency and ability to react to customers' needs determines its success or failure, not where its performance is dictated, or where the rules change frequently. Although many new generation projects have been proposed for California, those projects are competing against development opportunities in other states and other countries, and their fate may ultimately be decided by whether artificial price controls are maintained.

5. PRICE CAPS CONSTRAIN SUPPLY AND THREATEN RELIABILITY

Price caps pose a real threat to system reliability that cannot be adequately measured. The continued use and lowering of price caps only result in an increase in power exports and a decrease in power imports during times when power is needed most. Such a situation can only increase the possibility of more serious system emergencies and a much greater occurrence of blackouts. This fact was acknowledged by both the CEO of the Cal ISO, Terry Winter, as well as the Cal ISO's Staff at the June 28, 2000 Board meeting where caps were lowered to \$500. This fact is also a prime driver behind the push by California for regional price caps.

Moreover, price caps result in serious burdens in the real time market. When energy trades above the Cal ISO's cap in forward markets, Load underschedules in order to buy from the Cal ISO in real time at a lower net price. In conjunction with the prohibition that existed against the utilities in California entering into substantial long term power contracts, price caps are a root cause of the Cal ISO's problem of excess volume in the real time market under high demand conditions, which threatens reliability and increases price volatility. The Commission has ordered the Cal ISO to resolve this problem—however, a simple solution to the problem is the elimination of purchase price caps. Once caps are eliminated, Load will no longer have an incentive to limit the price of their bids in the forward markets.

6. PRICE CAPS FAIL TO ACHIEVE THEIR INTENDED RESULT

Not only are price caps an inherently bad policy, they have also proven quite ineffective at mitigating price. The Cal ISO's Market Surveillance Committee found that monthly average energy prices during June 2000, when the price cap was \$750/MWh, were lower than monthly average energy prices during August 2000, when the price cap was \$250/MWh. This result occurred despite the fact that virtually the same amount of energy was consumed in California during these two months.

CONCLUSION

Williams agrees with the Commission's recognition in its November 1 Order that price caps serve to disrupt the market and discourage new generation, and they have proven to be largely ineffective at moderating prices. Indeed, as the Commission also noted, average prices actually increased as price caps decreased. Williams also agrees with the Commission's prior finding that the "price cap is not an ideal approach to operating a competitive market, and we do not expect it to remain in place on a long-term basis." *AES Redondo Beach, L.L.C. et al.*, 87 FERC ¶61,208, at 61,818 (May 26, 1999). Appropriate price signals are needed to attract investment in new capacity, and Williams agrees with the Commission that "the most crucial task ahead is to ensure that a robust supply enters this market, both now and in response to any future price signals." November 1 Order at 46. Accordingly, Williams EM&T recommends the prompt elimination of all such caps.

CALPINE CORPORATION,
WESTERN REGION OFFICE,
Pleasanton, CA, March 1, 2001.

Mr. HOWARD USEEM,
U.S. Senate, Russell Courtyard, Washington, DC.

Dear Mr. Useem: On behalf of Calpine Corporation, I am pleased to provide the following responses to questions from Senator Campbell regarding the California energy crisis. I have repeated the questions here and follow them with our responses.

Sincerely,

CURT HILDEBRAND,
Vice President.

RESPONSES TO QUESTIONS FROM SENATOR CAMPBELL

Question. Many statements have been made that California's electricity crisis is a regional crisis. I know that when California needed or wanted water they got water from Colorado, now when they need power are they going to take Colorado power? What impact will California's current problems likely have on Colorado and the other Rocky Mountain states?

Answer. For the near future, California's electricity problems will probably not affect Colorado in any substantial or significant way. The Colorado electricity market has yet to deregulate and it appears unlikely that will change in the near future. Since the Colorado utilities continue to operate under state public utility commission regulation, the utilities' first obligations are to their own customers. Any sales to California must come after Colorado's utilities meet their obligations to serve their own customers. A recent analysis of Colorado utility generation resources suggests the Colorado utilities are largely self-sufficient, purchasing only on the wholesale electricity market when it is cheaper to buy power rather than generate it themselves. There is the possibility that Colorado utilities might enter into contracts to sell their excess power to California entities and unforeseen circumstances could arise that would make such contracts uneconomic. However, the Colorado Public Utilities Commission would never permit the Colorado utilities to defray the costs of such contracts at the expense of Colorado ratepayers. Indeed, it is more likely that sales to California will defray costs to Colorado ratepayers since such sales will reduce some of the burden of raising capital for new generation that could serve either Colorado or California.

Question. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. Currently there is not too much Colorado should be doing. By retaining its current regulated status, the California problems should not affect the Colorado market or resources. Some of the protections noted in the response to the first question should provide some safeguards for Coloradans.

Question. I am skeptical of price caps. Many say they are likely a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. Caution is a wise and prudent response regarding price caps. A price cap that is set too low will have a disincentive effect on building new generation as well as potentially threaten the economic viability of existing generation a price cap set too high will be unsatisfactory from a consumer standpoint. At best, a price cap can prevent only the most egregious exercises of market power, e.g., the \$6,000/MWh price that occurred last May in New England. The ISO-New England set a price cap at \$1,000/MWh after that incident. Price caps can also suffer from rigidity of implementation. The large increases in the price of natural gas may make a price cap as high as New England's too low to permit financially viable entry by new generation. Thus, unless the price cap receives regular review for such effects, it may have a substantial negative impact.

We hope these responses are helpful to you. Please advise if you have questions or wish to discuss. Like you, we hope to see the end of this crisis through added energy resource development and new plant capacity additions.

CERA,
Cambridge, MA, March 2, 2001.

Mr. HOWARD USEEM,
U.S. Senate, Russell Courtyard, Washington, DC.

DEAR MR. USEEM: On January 31, 2001, I testified on the California power crisis at the oversight hearing held by the Committee on Energy and Natural Resources.

Below please find three additional questions from Senator Campbell and my responses. The questions were forwarded to me by Senator Frank Murkowski, Chairman of the U.S. Senate Committee on Energy and Natural Resources.

I hope I have answered Mr. Campbell's questions sufficiently. Please let me know if I could be of further assistance.

Sincerely,

LAWRENCE J. MAKOVICH,
Senior Director.

RESPONSES TO QUESTIONS FROM SENATOR CAMPBELL

Question 1. I know that when California needed or wanted water they got water from Colorado, now when they need power are they going to take Colorado power? What impact will California's current problems likely have on Colorado and the other Rocky Mountain states?

Answer. Water and electric are both tradable commodities, but there are important differences. Unlike water, the western electric transmission network is highly integrated. In addition, given its physical character, electricity flows are much more difficult to control than water. Electricity moves in a free flow system in which electric follows the path of least resistance. The attached figure shows the highly interconnectedness of the Western system and the degree to which it is hard to predict flows. In the figure, 100 MW of power is generated in Utah for consumption in Wyoming. Because of the interconnectedness of the system and physical characteristics of electricity, the flow of electricity from Utah to Wyoming will depend on power production and consumption in the surrounding areas as well as temperature (which effects the flow of electricity through transmission lines), and thus will be hard to predict.

As experience has demonstrated, large interconnected transmission systems generally are economically beneficial as they enlarge markets, increase competition, and raise overall power supply system security. The downside of interconnectedness is that when a problem arises in one area, it will impact other areas. Hence, it is difficult if not impossible to isolate Colorado from the effects of the California power shortage.

Question 2. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. The most important step Colorado and the rest of the Western region can take to minimize the impact of the California crisis and future crisis's is to ensure that there is sufficient generating capacity in the region. This means removing unreasonable restrictions to new power plant development, something that California did not do. In addition, because of its key role in shipping power and creating larger markets, transmission constraints should be removed. FERC's efforts to promote large Regional Transmission Organizations (RTOs) to ensure the non-discriminatory access of power and the efficient operation and expansion of transmission networks is a step in the right direction.

Question 3. I am skeptical of price caps. Many say they are likely a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. Your skepticism regarding price caps is well taken. As we explained in our recent CERA report on the California power crisis, "price caps will do nothing to address the two pressing needs for power markets this summer—increasing supply and/or decreasing demand. Indeed, they will do quite the opposite." The well-documented history of price controls demonstrates again and again that such controls distort the market, send the wrong signals, create shortages, and cause more problems. So yes, in the long run they will hurt.

THE BRATTLE GROUP,
Washington, DC, March 2, 2001.

Mr. HOWARD USEEM,
Committee on Energy and Natural Resources, U.S. Senate, Russell Courtyard, Washington, DC.

DEAR HOWARD: Enclosed are my responses to Senators Campbell and Shelby regarding questions that they posed after my testimony on January 31, 2001 to your Committee. If they need further assistance, please feel free to call.

It was good to see you again and I hope our paths cross soon again.

Sincerely,

PETER FOX-PENNER,
Chairman.

[Enclosure]

RESPONSES TO QUESTIONS FROM SENATOR CAMPBELL

Question 1. Many statements have been made that California's electricity crisis is a regional crisis. I know that when California needed or wanted water they got water from Colorado, now when they need power are they going to take Colorado power? What impact will California's current problems have on Colorado and other Rocky Mountain states?

Answer. Electric power markets are regional in nature, so high wholesale prices in California will affect the wholesale price of power in other western states, including Colorado and the Rocky Mountain states. However, high and volatile regional wholesale prices are not likely to have as much of an impact on either the price or reliability of electric service in Colorado as they've had in California. Utilities in states with traditional regulation, like Colorado, can be and generally are required to serve their native load (retail and firm wholesale customers) before selling power to others. This means that Colorado utilities only can sell their excess generating capacity—i.e., capacity not needed to serve native load customers—into other states, regardless of the financial attractiveness of such sales. Furthermore, under traditional regulation, Colorado electric customers only will pay Colorado utilities' actual average costs per unit of power generated, regardless of the regional unregulated price, for all self-generated power.

Some Colorado utilities are buying power on the spot market, and these purchases will be much more costly than in prior years. These higher-cost purchases will eventually cause rates to increase. The amount and timing of the increase is difficult for me to predict.

The impact of the California energy crisis on short-run reliability is likely to be small. Although California may experience rolling blackouts this summer, such events should not affect Colorado unless there is an unusual confluence of event leading to a severe regional physical shortage, such as major plant and line outages across the West. While region-wide outages are very unlikely, this is a good time for Colorado and every western state to make outage contingency plans for all power-sensitive areas, and to accelerate the introduction of price-responsive demand and cost-effective energy efficiency programs.

Question 2. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. While Colorado cannot completely isolate itself from the California crisis, traditional state regulation of electric service and rates can, as I explained above, largely ensure that Colorado residents do not experience the high prices and supply disruptions currently plaguing California. The long-term solution, however, is to foster the creation of competitive and efficient wholesale power markets that provide low cost and reliable power to electric customers throughout the U.S. Passing federal legislation that includes the provisions cited in my testimony will help create the basis for such wholesale power markets.

Question 3. I am skeptical of price caps. Many say they are a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. Price caps could discourage new investment in generation, especially if they are set too low. More specifically, price caps will discourage investment in new generating capacity, particularly peaking capacity, if they prevent developers of such capacity from recovering all of their costs, including a market-based return on their capital. Determining whether a price cap would in fact prevent owners of new capacity from recovering all of their costs is an empirical issue.

While I do not in general favor the imposition of price caps in wholesale power markets, I believe that they can be an effective short-term or temporary remedy to the exercise (or potential exercise) of market power. If used, price caps should have an established termination or phase-out date and should be set high enough so as not to discourage new generation investment.

RESPONSE TO QUESTION FROM SENATOR SHELBY

Question. Dr. Fox-Penner, while there are important national and economic issues implicated in this situation much of the testimony provided here today indicates that this is more of a California or state issue than a federal issue. That said, there are some actions that Congress can take to help ease the regulatory burdens that presently exist. One such measure would be to repeal the Public Utilities Holding Company Act or "PUHCA." What are your views regarding the potential positive or negative effects of PUHCA repeal?

Answer. I have seen no evidence suggesting that PUHCA has been a barrier to building new generating capacity in California or elsewhere in the U.S. The difficulties that developers have encountered in siting new generating facilities in California are a result of the state's siting regulations and processes.

Nevertheless, I think that PUHCA's uneven incidence is harmful to fair competition and provides little in the way of consistent consumer protection. Thus, I favor the replacement of PUHCA with the compromise language agreed to by stakeholders in the 106th Congress regarding state regulator access to books and records and related provisions.

PG&E CORPORATION,
Washington, DC, March 5, 2001.

Hon. FRANK H. MURKOWSKI,
Chairman, U.S. Senate Committee on Energy and Natural Resources, Russell Court-
yard, Washington, DC.

Attention: Howard Useem

DEAR SENATOR MURKOWSKI: In response to your letter dated February 9, 2001, attached are the answers in response to Senator Campbell's questions in conjunction with the oversight hearing held on January 31, 2001.

Sincerely,

STEVEN L. KLINE,
Vice President.

[Attachments]

RESPONSES TO QUESTIONS FROM SENATOR CAMPBELL

Question. Many statements have been made that California's electricity crisis is a regional crisis. I know that when California needed or wanted water they got water from Colorado; now when they need power are they going to take Colorado power? What impact will California's current problems likely have on Colorado and the other Rocky Mountain states?

Answer. The entire Western region of the United States is facing a serious shortage of electricity supplies at the same time that demand for power has increased significantly. From 1996 to 1999, summer peak load for the Western System Coordinating Council (WSCC) region grew 5,700 MW, while existing generation in the region grew only 2,048 MW during the same time period.

The Western grid is fully interconnected, and the region has a long history of wholesale power exchanges and mutual reliance. This cooperative arrangement makes sense because it recognizes and takes advantage of regional diversity in resources, seasonal demand, and available supply. It is an arrangement that can continue to provide benefit into the future.

Development of generation resources and expansion of transmission facilities is required throughout the West. California has taken significant steps to streamline and facilitate such development over the next several months. Colorado also is working to ensure that new generation is in place to meet its growing peak demand. And during those times of the year when Colorado's demand is not at peak, exporting the power from in-state generation facilities will make those resources more cost effective for Colorado ratepayers.

Question. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. Because we are all facing supply challenges in the West, California offers some valuable experiences and some important lessons to all states, whether they choose full retail competition or just reliance on the competitive wholesale market. Siting laws and regulations must provide for the rational and expeditious development of generating resources on a competitive basis. In order to attract adequate investment, states must foster an environment that is conducive to business, including a stable regulatory program. Markets must be structured and rules developed to provide for true competition and to encourage accordant behavior, such as hedging and demand responsiveness. It is no less true today than it was a year ago that competition in the electricity industry can reliably provide the widest possible range of products and suppliers at the best possible prices. Legislators, regulators, and market participants must work diligently and cooperatively to bring creative market solutions to bear.

Finally, given the interconnected nature of the grid, it is important to resist the temptation to become insular in the face of looming short-term regional pressures.

As discussed above, the West has always benefited from mutual dependence and regional coordination, and that approach will continue to optimize the use of the region's resources.

Question. I am skeptical of price caps. Many say they are likely a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. PG&E Corporation agrees that, as a general matter, price caps dampen appropriate price signals in a competitive market. However, where market design flaws or other market problems exist, price caps may be necessary for a limited duration.

Due to the supply shortage in the West, prices for this essential commodity are so high that the economic and social well being of the entire region is threatened. Under these circumstances, many observers believe that a temporary price cap on wholesale rates is necessary to provide a "time out"—to protect ratepayers and the regional economy for the relatively short time period while supply and demand are brought into balance. They argue that a regional cap would recognize the interconnected nature of the Western electricity market and prevent buyers from bidding up energy prices as they seek to meet inelastic demand and avoid curtailing their customers. If regional caps are employed, we believe defined, periodic review of the status of Western wholesale markets is essential so that caps are eliminated as soon as they are no longer necessary.

In summary, regional price caps may be appropriate for the current circumstances of the wholesale electricity market in the West, so long as they:

- are short-term in nature,
- include either a specific end date or a defined process for sunset, and
- apply only to existing resources in order to minimize interference with price signals.

RELIANT ENERGY,
Houston, TX, March 6, 2001.

Hon. FRANK H. MURKOWSKI,
Chairman, Senate Energy and Natural Resources Committee, Senate Dirksen, Washington, DC.

DEAR CHAIRMAN MURKOWSKI: Reliant Energy greatly appreciated the opportunity to testify before your committee on January 31, 2001 on the electricity crisis currently facing California, and we commend you on the leadership role you have taken to explore what constructive role the federal government might assume.

Enclosed are expansions on the areas of Joe Bob Perkins' testimony about which several of your colleagues raised concerns during the course of this hearing. We request that this material be made a part of the official record of the hearing. As you know, this is a very complex issue, and Reliant Energy is committed to doing everything necessary to ensure that all parties involved understand this issue completely.

We are committed to working with you and all parties as you face this difficult issue. We appreciate the opportunity to present our views and, as always, are available to you at any time to answer questions pertaining to energy or other issues.

Again, thank you for inviting Reliant Energy to testify before the Senate Energy and Natural Resources Committee.

Sincerely,

BRUCE GIBSON,
*Senior Vice President,
Government Affairs.*

[Enclosures]

COMPARISON OF 6/29/99 v. 6/29/00

Regional supply and demand balance. An examination of June 29, 2000 data shows that at 4 p.m., net imports were 4,500 MW lower than the same period in 1999. The reduction in supply resulted in putting upward pressure on wholesale electric prices. In addition to the reduction of net imports, many generators sold forward to other parties. (The IOUs did not purchase forward even though provisions had been approved that would have allowed them to make such purchases.) The result was a reduction in the supply bid curve of approximately 7,000 MW. This, coupled with higher than normal demand and lower net imports, meant that the supply bid curve was now composed of higher cost generating units which also contributed to the upward pressure on wholesale prices.

Increases in natural gas/emissions credit prices. Substantial increases in the price of natural gas delivered to the California border have contributed greatly to price

increases in the California market. In fact, most market participants would readily admit that these gas price increases alone have created a situation where the frozen retail rates in California cannot fully recover the cost of the procurement of energy from gas-fired resources. The following graph of California gas prices from November 1998 to the present, as documented by the California ISO's own Department of Market Analysis, illustrates the trend of gas prices in the California market. Although not shown in this graphic, California border gas prices has exceeded the prices underlying the graphic. In addition to the gas price indices shown below, the burnertip price for Reliant Energy typically includes an additional \$0.46/mmbtu for intrastate transportation.

The general approach to evaluating the impact higher gas prices have on the cost of energy is to look at the heat rate of the typical generating units at maximum output. However, operational limitations on starting and cycling of units often requires dispatch at minimum load levels. If a supplier wishes to participate in the ancillary service markets, it must frequently run its units at minimum loads in order to maintain capacity for regulation service and operating reserves. At minimum load levels, the heat rate of most units undergoes a substantial increase. The following chart illustrates the marginal cost impact of this effect for three of Reliant Energy's generating units.¹

As the chart illustrates, the impact of gas prices in 2000 (up to \$7.00/mmbtu at the burnertip) vs. gas prices in 1999 (as little as \$2.25/mmbtu at the burnertip) produces an increase in cost per megawatt hour ranging from \$45-\$125 per megawatt hour depending on the heat rate and load level of the unit in question. Considering that average power prices in previous years were less than \$30 per megawatt hour, it is apparent that the effect of natural gas prices alone can cause power prices to jump to 5 times or more the previous years norm. Especially significant is the impact on prices when units are at minimum load, because minimum load levels typically occur during off-peak hours. Market critics have consistently pointed out that off-peak power prices in California are substantially higher than one might expect. However, the fact that gas-fired units must stay online overnight at minimum load levels causes substantially higher marginal costs than most critics admit.

Just as the price of natural gas has increased substantially, so has the cost of NO_x emissions credits. In January 2000, emissions credits were selling for under \$2 a pound. By the end of August, purchases made by Reliant Energy were at prices of \$49 per pound, a 25-fold increase. The following graph illustrates the trend of the price of NO_x emissions credits during this year.

The effect of increased emissions credits prices has actually caused, for some units, a greater increase in variable cost than the increases due to fuel prices. The following graph shows the change in the variable cost due to emissions credits² for three typical units, Etiwanda 2, Etiwanda 4 and Etiwanda 5.

As is apparent from the graph, the increased cost due to the rapid rise in NO_x emissions credits has caused increases ranging from \$25 to \$150 per megawatt hour. As with the impact of fuel costs, the cost of emissions is also magnified when the units are operating at minimum load conditions, which further exacerbates the problem of off-peak energy prices.

The combined impact of both increased natural gas prices and increased air emissions credits on Reliant Energy's units are illustrated in the following chart, which shows the combined increase on market clearing prices to be from \$70-\$230 per megawatt hour. In comparison with the under \$30 per megawatt hour prices that were seen in the California market during 1998 and 1999, the fact that overall market costs increased 3-fold is not an unjust or an unreasonable outcome.

Buyer bidding behavior. At the FERC public hearing on November 9, 2000, Reliant Energy provided testimony conclusively demonstrating that high prices in the PX day ahead market on June 29, 2000 were the direct result of competitive bidding between buyers. Even though the bids of suppliers dropped, market clearing prices quadrupled. As explained in that testimony, this evidence clearly demonstrates that the \$750/MWh prices reached that day were not affected by the bids of the sellers. In fact, even if the sellers had reduced all of their offers to just \$1 per megawatt hour, the end result would have been essentially the same. This same pattern occurred on a daily basis throughout June, July and August based on an analysis of publicly posted data.

A review of the information made public on a regular basis by CAISO shows that the suppliers' curves on June 29, 2000 are almost identical hour after hour. But,

¹ Statistics shown in this graph reflect minimum and maximum output levels for Etiwanda 2 and 4. Only maximum output conditions are shown for Etiwanda 5 due to the fact that this is a simple cycle peaker and does not normally run at minimum output levels.

² In this example we have used prices of \$1.35/lb for 1999 and \$46.50/lb for 2000.

there was an important, yet subtle difference worth noting. On almost every day, between 9 am and 1 pm, suppliers were offering more power into the market. As with any commodity, increased supplies effectively lower the market clearing price for a given volume of load. Yet, market clearing prices consistently increased substantially during this period. The reason is simple, buyer to buyer competition. Buyers attempt to leap frog each other by raising their bid price each hour beginning about nine or ten o'clock in the morning until the load is at the daily peak. This forces the market to clear at higher and higher prices until it hits the price cap.

The competition that exists between buyers is similar to the sort of competition that exists in an auction through the on-line auctioneer eBay, where a seller offers a scarce product and posts a minimum price that they will accept for the product. Assume that the seller sets a minimum price of \$100. If there were no competition between buyers and a bidder offered to pay \$100, that bidder would get the product at the supplier's minimum price. In the event there is competition between buyers, however, the auction process allows the buyers to bid against one another until the buyer who places the highest value on the product is identified as the winning bidder. Assume that the winning bid in this auction was \$500. While the scarcity of the product may have provided opportunity for the seller to charge \$500 outright for the product, the auction process also permits the buyers to set the clearing price, which results in a premium over the price originally offered by the supplier. As shown by this example, the \$400 premium that was paid over the seller's offer was determined by the buyers. That premium fits the classical definition of scarcity rent not the classic definition of market power abuse.

Price Caps. Amidst promises of lower prices through increased competition, California was the first State to fundamentally transform its electric industry from a vertically integrated structure based on cost-of-service ratemaking to a new competitive paradigm. Consequently, it is not surprising that over the last several years, a lot of attention has been directed towards the California experience. Unfortunately, the results have failed to meet the early promises when the legislation was passed. Today, in the case of PG&E and SCE, the high price of wholesale electric power combined with retail rates that continue to be regulated have placed severe strain on the financial integrity of both companies. SDG&E, which has faced similar prices in the wholesale market but whose retail rates are unregulated has seen customer bills increase significantly.

Some assert that the root cause of this problem is the exercise of market power on the part of non-utility resource suppliers who now play a very significant role in the California generation market. Further, forced to divest themselves of at least 50% of their generation assets under deregulation, California's investor-owned utilities successfully auctioned-off large blocks of generation capacity to out-of-state merchant providers who, now through the unbridled exercise of market power have raised wholesale electric prices to unparalleled levels.

The facts, however, tell a different tale. The facts point to a system that is not only severely capacity constrained but one that is further burdened by a dysfunctional system of rules and regulations that lead to perverse consequences and high prices for wholesale power that California has experienced over the last year.

Although the significant exercise of market power continues to be cited as one of the major factors underlying the high prices for power in California and the need for some sort of price caps, this conclusion is unsupported by factual evidence. Under the circumstances, market power is being held up as the regulatory scapegoat for what ails the system. However, as noted by Dr. William W. Hogan of Harvard University, "The difficulty in the present case is that there has been no direct showing that such traditional market power has been exercised at all, much less that it has been exercised on a widespread and significant basis."³ Dr. Hogan goes on to further point out that, "The often mentioned tendency of generators and loads to avoid the day-ahead market in preference to the real-time market *is a response* [emphasis added] to bad market design and pricing incentives (including price caps), but does not demonstrate the exercise of market power."⁴ Similarly, nor does the fact that prices may be bid above so-called marginal cost indicate the exercise of market power.⁵

³See John D. Chandley, Scott M. Harvey, and William W. Hogan, "Electricity Market reform in California," November 22, 2000, page 13.

⁴*Ibid.*, page 13.

⁵See Severin Borenstein, James Busnell and Frank Wolak, "Diagnosing Market Power in California's Restructured Wholesale Electricity Market," August 2000. See also Frank A. Wolak, Robert Nordhaus and Carl Shapiro, "The Competitiveness of the California Energy and Ancillary Services Market," March 9, 2000.

A more plausible explanation for the high prices is scarcity. Under existing market rules for example, tight supply conditions in California combined with higher than expected demand, not only in California, but throughout the western U.S., have created a strong incentive by generators to export power from the State exacerbating the already tight supply conditions. This is a normal response to market conditions. Nevertheless, the FERC has recently adopted a \$150/MWH soft price cap among its remedies for the California market.⁶ This use of price caps has also been endorsed by Governor Davis, the California Public Utility Commission (CPUC), and the California Independent System Operator (CAISO) in an effort to hold down the cost of power purchased by the CAISO and the California Power Exchange (CalPx) thereby attempting to protect the financial integrity of California utilities.

NO NEED FOR PRICE CAPS

“Price caps are a case of a remedy far worse than the disease.”⁷ While conceptually price caps have the appeal of lower prices which is difficult for most consumers to ignore, any short-term benefits from lower prices are usually far outweighed by the adverse effects on competition. Both FERC in its study of the California market and the CASIO fully acknowledge that price caps are not a viable long-term solution and that they should be removed as soon as possible or relegated to a purely backstop role.⁸ Price caps are merely a convenient substitute for market failure. Even where it has been suggested that price caps should be put in place, if for no other reason, than to backstop the system in the event of a market breakdown, this is a hollow argument. Adequate supply coupled with sufficient demand-side responsiveness and the ability to hedge future prices, all lacking in the California market design, dispel the need for price controls of any kind. It is interesting to note that in the deregulation of other industries such as natural gas and long-distance phone rates, there were no price caps left lurking in the closet and market discipline has been maintained. The case of natural gas is a good example. Between January 2000 and January 2001 spot market prices for natural gas at Henry Hub rose four-fold to more than \$10/MMBTU, yet no one was calling for price controls. Why? It is simply the wrong thing to do. Rather than lead to lower prices, price caps on natural gas would lead to declines in production as it did under earlier gas price regulation and even greater uncertainty in the market.

PRICE CAPS IN OTHER MARKETS

Price caps are neither new, novel nor generally effective. One can point to failed efforts at broad price controls during the Nixon Administration in the early seventies as well as the ill-fated regulation of inter-state natural gas prices which lead to severe shortages in the inter-state gas market to see the consequences from such ill-advised policies.⁹ Perhaps with the exception of the Eastern Interconnect where price caps have been largely unbinding,¹⁰ most of the experience with price caps in other electric markets have either proven to be ineffectual or in the case of the U.K. have resulted in perverse consequences resulting in further market intervention on the part of the regulatory authority.

PRICE CAPS HARM THE MARKET

Price caps treat symptoms not causes.¹¹ Consequently, they offer no long-term relief. Both the FERC and the CAISO have acknowledged this point yet continue to press the case for some sort of price cap mechanism. Ultimately, high market prices can only be effectively mitigated by the addition of new capacity. Although the existence of demand-side elasticity, also currently lacking in the California market, along with certain other market reforms such as lack of forward contracting may help to curb the increase in wholesale prices, the heart of the California problem remains

⁶See Federal Regulatory Commission News Release, “Commission Adopts California Price Remedies Aimed at Fixing Malfunctioning Electric Markets,” December 15, 2000.

⁷See Scott Esposito, “Californians Need More Utility Deregulation, Not Less,” LA Daily News, December 17, 2000.

⁸See Frank A. Wolak, Robert B. Nordhaus, and Carl Shapiro, “Long-Term Price Cap Policy,” Opinion of Market Surveillance Committee California Independent System Operator, September 21, 2000.

⁹Proven gas reserves in the lower 48 states fell in every year between 1966 and 1978. See Robert J. Michaels, “The New Age of Natural Gas: How the Regulators Brought Competition,” The Cato Review.

¹⁰FERC has set price cap at \$1,000 in PJM, New England and New York markets.

¹¹*Op Cit.* Wolak, Et al.

insufficient generation capacity. Under the circumstances, everything that can be done to encourage rather than discourage new investment should be undertaken.

Under any set of market rules, the imposition of price caps will, on balance, do far more harm long-term than any short-term benefit that might arise. The fundamental problem with price caps is that they send the wrong price signal to the market. Not only do price caps shield buyers from the true cost of power, thereby minimizing the tangible benefits of price elasticity by reducing peak load and load shedding they also discourage new investment in the market. New investment is critically needed in order to provide a long-term solution to the problem of high market prices. Only additional generation capacity will provide the necessary long-term market discipline sought by FERC and others. Although FERC has suggested that \$150/MWH is sufficient to attract new investment that is not readily apparent nor is it widely accepted as a fact. Moreover, it is quite likely the mere presence of price caps would create enough uncertainty about future prices or the future regulatory environment that even if price caps were set sufficiently high, new investment would still be discouraged. Any investor will weigh his options carefully. Opportunities for new merchant plants exist in any number of markets across the U.S. If California, or any market for that matter, wishes to attract new investment it must demonstrate that prices offer the prospect of a sufficient rate of return and that the regulatory climate is conducive to new entrants. Price caps and other artificial market constraints can only serve to detract from those opportunities.

In addition to sending the wrong price signal to the market, capping prices in one market (i.e., California) while prices in neighboring markets remain uncontrolled creates the opportunity for pricing arbitrage. In fact, this has been evidenced in California by the increased exports of power to surrounding regions when prices have risen above the price cap in California. These out-of-state market opportunities will also lead to higher prices in California as generators bid into the market based on their opportunity costs rather than simply marginal production costs.

Finally, it is very difficult to determine the optimal price cap. Price caps in California for instance have, at one time or another, been set at prices ranging from a \$750/MWH hard cap (October 1999) down to the current \$150/MWH soft cap outlined in FERC's December 15, 2000 ruling. Under these circumstances, it seems that the choice of a price cap has so far proven to be simply trial and error, which has proven to be an ineffective approach to a serious policy dilemma.

CONCLUSION

Are price caps a necessary evil? No. While price caps may provide some short-term restraint from the exercise of significant market power; they offer no long-term solution. Ultimately, price caps send the wrong market price signal, one that can only discourage new investment. Moreover, the lack of new investment coupled with a growing demand such as being experienced in electric markets from California to New England will only lead to tighter supplies and possibly even high market prices in the future.

SEMPRA ENERGY,
San Diego, CA, March 8, 2001.

Hon. FRANK MURKOWSKI,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN MURKOWSKI: On behalf of Sempra Energy, I am pleased to provide input on three matters that have arisen as a result of my testimony before the Committee on January 31. In addition to answering the questions raised at the hearing regarding whether federal rules and/or regulations exist that hinder the expeditious siting of powerplants (and if there are actions that can be taken by the federal government to expedite the siting of plants), I am also providing answers to Senator Campbell's three written questions. I would also like to rebut input the Committee received from Williams Companies regarding whether the cost of electric generation in California would be less if utilities still operated the plants that were sold to non-utility generators under the state's restructuring law. We do not believe that the analysis presented by Williams accurately portrays the costs associated with operation of a 320-megawatt plant.

I. IMPACT OF ENVIRONMENTAL REGULATIONS ON SITING OF POWER PLANTS

The Clean Air Act (Act) requires that emissions from all new sources in nonattainment areas be offset by reductions from existing sources. Since existing sources in California have already significantly reduced emissions, little opportunity

for further reductions remains. Existing Environmental Protection Agency (EPA) policies must be modified to allow implementation of innovative emissions reduction projects that will offset the emissions from new power plants within the region. If necessary, Congress should amend the Act to accommodate the need for greater flexibility.

The lack of offsets has become an obstacle to building new, cleaner and more efficient power plants in California's Mojave Desert, Imperial Valley and San Diego County, where efforts to build additional power plants have been stymied because of emissions offset requirements. While both areas have land, water, gas and access to electric transmission lines, they are areas that have historically had few emissions. Consequently, there are no emissions credits in the bank and little ability to generate new reductions, unless mobile source emissions can be used as offsets for new stationary sources.

The situation is as challenging in the counties of Los Angeles, Orange, San Diego, San Bernardino and Riverside. Since more than 90 percent of the NO_x emissions are from mobile sources (only 8 percent from stationary sources), it makes little sense to seek offsets for new power plants solely within the stationary source sector. Discouraging offsets for new plants to the stationary source sector, which is the effect of current EPA policies, diminishes the ability of all stationary sources to grow, since there are fewer offsets available to cover their increased activity. While some local air districts have tried to be responsive to this issue, their efforts have been limited because of existing EPA policies. Either through changes in policy or amendments to the Act, EPA should allow greater flexibility to new power plants equipped with Lowest Achievable Emission Rate (LAER) control technology. LAER-equipped plants would have the option of temporarily not providing offsets, of obtaining offsets from a growth allowance offset pool, or using mobile source emissions as offset credits. By increasing the availability of offset credits, new power plants can be sited within the strict compliance guidelines in non-attainment areas.

Another critical impediment to power plant construction in California is the manner in which EPA treats modifications to an existing facility and the construction of a new facility. Currently, both construction efforts are considered the same, which makes the simplest modification complicated and expensive because it must undergo an extensive review process. EPA should be required to revise its emissions calculation methodology for determining whether an emission increase will result from a modification to an existing source by comparing the existing potential to emit pollutants to the future potential to emit pollutants. The current policy, which compares historic actual emissions to future potential emissions, is punitive to existing sources and results in the abandonment of upgrades to existing plants, further thwarting the state's ability to meet increased power demands.

RESPONSES TO QUESTIONS FROM SENATOR CAMPBELL

Question 1. Many statements have been made that California's electricity crisis is a regional crisis. I know that when California needed or wanted water they got water from Colorado, now when they need power are they going to take Colorado power? What impact will California's current problems likely have on Colorado and the other Rocky Mountain states?

Answer. Eleven states (including California and Colorado) comprise the Western States Coordinating Council (WSSC). The supply and demand capabilities and needs of states within that pool affect each other. Like California, most of the West has also outgrown its electrical system, and energy experts predict that it would soon be facing supply problems similar to those occurring in California absent California's current crisis.

Except for Montana, no states in the West have increased power production to keep pace with population growth of the last decade. Many states have not completed construction of a single new power plant. Since California is at the forefront of electric restructuring, the challenges associated with its electric generation system and the impact upon the states within the Western region are highlighted.

Industry, financial and government experts agree that in addition to problems with the market structure, supply is a key culprit behind California's energy crisis. I would also note that energy related infrastructure (natural gas pipelines and electric transmission) has not kept pace with new demand, further compounding the problem. These factors, a 32 percent growth of California's economy since 1995 and an increase in electricity demand by 24 percent (a byproduct of the computer revolution), have made California the world's sixth-largest economy. Yet despite that enviable growth and 5 million new residents, no major power plants have been built in the last 10 years. Fortunately, the state is working to correct that problem. To date, nine power plants have been approved for construction and six are now under con-

struction. Furthermore, the state is pushing aggressively to lower the rate of energy consumption within California, despite the fact that it is already the second most energy efficient state in the nation.

However, the strain on energy resources is compounded by equally significant growth in neighboring states that California relied upon to cover its electricity supply shortfall. In fact, when California's demand growth over the 1999-2000 period (when price spikes began) was relatively flat, demand growth throughout the interconnected grid of the western region was strong. It has been estimated that nearly 85 percent of the growth in electricity demand over the past five years in the western region has occurred outside of California. The timer has been ticking on this time bomb for quite some time.

As electric generation plants are built in California and in the other states within the western region, supply will better meet demand and power supply and demand imbalances in the region should be corrected.

Question 2. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. In the long term, the permitting and construction of power plants must be expedited both in California and throughout the Western region so that adequate supply, combined with conservation efforts, is available to meet the region's demands.

However, immediate action must be taken to protect consumers from soaring electric prices. We believe that consumers can be best protected by a government sanctioned "time-out" so that the market can cool off and participants can work together to reach agreement on a reasonable price for the electric commodity.

Until the market is fixed and is truly competitive, the Federal Energy Regulatory Commission (FERC) must implement this "time out" by establishing interim wholesale cost of service (plus) rates for electricity, which would sunset once the market is fixed. To ensure market equilibrium, the wholesale price of natural gas must also be capped (as Senator Feinstein has proposed in S. 287). While FERC has admitted that the market is broken and that prices are not "reasonable," it has failed to take the next logical step to provide an interim solution. We believe that FERC must establish a price that is fair and reasonable for consumers, and that also provides an incentive for the continued construction of electric power plants. It is a deal that only the federal government can broker because the FERC pre-empts state action in this wholesale market.

Question 3. I am skeptical of price caps. Many say they are likely a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. We agree that price caps are not a long-term solution to the current energy crisis. Simply put, what happened in California is that demand grew while supply remained flat. As demand exceeded supply and retail prices were capped, which proved to be a disincentive to conserve energy, the state began to experience shortages. Prices that rise as demand rises not only signal suppliers to add production but also signal consumers to reduce consumption. When consumers did not see these price signals, consumption continued and demand continued to outstrip supply. Even today, California residential customers have not seen price increases.

Unfortunately, the result has been a dysfunctional market in which all of the market power resides on the supply side of the equation. To prevent further unreasonable and economically disruptive dislocations from this unbalanced marketplace, we need a temporary measure that will cool off the overheated market and facilitate an orderly transition to long term contracting. Rather than implement a flat regional price cap, a more equitable near term solution to the crisis is the creation of "Cost of Service Plus" rates where generators have not already agreed to enter into long-term contracts. Under this approach, each generator would provide to FERC the unit cost per kwh to operate its plants. FERC would then add-on a profit margin to the price per kwh that is high enough to provide generators with an incentive to continue developing new capacity but low enough to meet concerns regarding consumer energy prices. By avoiding the implementation of a "one size fits all" price cap, Cost of Service Plus' rates would distinguish between baseload plants (that run continuously) and peaking plants (that only go online when demand reaches very high or peak levels). This approach would more accurately reflect the costs of generating electricity. Importantly, temporary "Cost of Service Plus" rates would protect consumers by providing price stability and at the same time provide assurances to generators that plant costs, including a healthy profit, will be fully covered.

RESPONSE TO WILLIAMS LETTER OF 2/14 TO CHAIRMAN MURKOWSKI

Finally, I would like to rebut the conclusion made in a letter sent to you on February 14, 2001 by Mr. Keith Bailey of Williams. There are several inaccuracies in Mr. Bailey's analysis, which concluded that the cost of electrical generation in California is high due to the cost of natural gas. The Williams letter used "a given day, January 18" to depict a hypothetical scenario in which the cost of generation would have been \$261.24/MWh for a historic utility generator and \$269.91/MWh for non-utility generator. The assumptions used in Williams' hypothetical day represent neither the prices that existed on that "given day," nor the prices that can reasonably be expected to prevail in the future. The problems with the assumptions Mr. Bailey has used are discussed below.

It is unclear how Mr. Bailey reached a gas cost assumption of \$20/MMBtu for this "given day," since the average cost of gas purchased at the California border for delivery on January 18 was only \$11.71 (as reported by Gas Daily). Further, of the \$11.71/mmbtu, \$3.66/mmbtu reflects the imputed value of interstate pipeline transportation (which, if acquired directly from the pipeline rather than through spot or short-term markets costs between 31 and 67 cents per mmbtu). This difference is important because utilities have historically purchased gas at the producing basin and acquired long term firm transportation on interstate pipelines to have the gas delivered to the California border at a price of between 31 and 67 cents per mmbtu under current FERC-approved rates. The ability to purchase pipeline transportation services is an option that has been available to all generators (and likely used by some). Because the price of gas in the San Juan basin was \$8.05 on January 18, if one conservatively assumed that transportation was obtained by a generator at full tariff rates (including fuel charges), the total cost of gas delivered at the California border, particularly for utility-owned generation, would have been approximately \$8.75/mmbtu on January 18.

Mr. Bailey's estimate of the NO_x credit cost of \$50 per pound is extremely high. On this subject, one has to distinguish between Emission Reduction Credits (ERCs) and RECLAIM Trading Credits (RTC). ERCs are needed by new power plants to offset emissions (primarily NO_x) in non-attainment areas. The cost to acquire sufficient ERCs for a 500 MW Combined Cycle would be about \$15 million, or roughly 6 percent of the capital cost of the project. Amortized over the life of the plant, this cost factor would not significantly impact the plant's cost of generation. However, emissions from a new or existing power plant in the South Coast Air Quality Management District (SCAQMD) were until recently capped by their allocation of RTCs. The cost of the RTCs increased from \$1.50 per pound of NO_x emissions one year ago, to almost \$50 per pound in the latter part of 2000. Since then, however, the SCAQMD has negotiated compliance orders with the power plants to remove them from the RTC market, and is in the process of changing its rules so that the power plants will add emission controls rather than purchase RTCs. Many variables exist that impact the cost of the controls for each given generating unit, including size, boiler specifics, heat rate, etc. that would dictate the controls needed and influence the cost for a particular generator. However, it can be assumed that the cost of adding controls is approximately \$8 per pound of NO_x. Unit size, boiler specifics, heat rate, etc. would dictate details of the controls needed and influence the specific cost for a particular generator. These variables could cause some fluctuation in the \$8 per pound figure.

Using these revised assumptions, the actual cost of generation at a time of extremely high natural gas costs (and these costs are expected to decline significantly in the future), becomes far more clear. Using Mr. Bailey's assumed day of January 18 and only modifying his gas cost and NO_x credit assumptions (\$8 per pound for NO_x credits and \$8.75/mmbtu for fuel), the calculated cost of electricity for the utility-owned plant in Mr. Bailey's hypothetical would be \$102.98. Using these revised assumptions, the calculated cost of electricity for the non-utility owned plant in Mr. Bailey's hypothetical would be \$111.66.

Another way of looking at this situation is from a rate of return perspective. On January 18, reported prices for Palo Verde on-peak energy charges were \$427.50/MWh and off-peak was \$245/MWh, for an average of \$366.67/MWh. Using all of Mr. Bailey's assumptions about the non-utility plant but assuming that this plant actually paid only the reported January 18 California border price of \$11.71/mmbtu for gas (rather than the \$8.75/mmbtu utility-owned plant assumption), and \$8 per pound for NO_x credits, the calculated cost of electricity for the non-utility owned plant in Mr. Bailey's hypothetical would be \$139.78/mwh. This equals a before tax annual rate of return on the equity piece of the non-utility generator's investment of more than 1,600 percent.

Thank you for the opportunity to comment on these critical issues. Sempra Energy is committed to working with you and other Committee Members to help resolve the energy crisis.

Sincerely,

FREDERICK E. JOHN,
Senior Vice President.

IDAHO POWER COMPANY,
Boise, ID, March 12, 2001.

HOWARD USEEM,
U.S. Senate, Russell Courtyard, Washington, DC.

Re: Committee on Energy and Natural Resources Hearing Additional Questions

Dear Mr. Useem: In response to Senator Murkowski's letter of February 9, 2001, these are my responses to the questions presented:

Question 1. Many statements have been made that California's electricity crisis is a regional crisis. I know that when California needed or wanted water they got water from Colorado, now when they need power are they going to take Colorado power? What impact will California's current problems likely have on Colorado and the other Rocky Mountain States?

Answer. The Rocky Mountain States can expect the following impacts: record high wholesale electricity prices during periods of high demand, erosion of financial strength of utilities, insufficient capacity to serve all customer requirements, rapid price increases in primary power plant feed stock (natural gas), and customer confusion, fear and anger. Each of these impacts has already been felt in California, and to a lesser in extent in the west. If there are short-term corrective measures taken with medium-term solutions to follow similar volatility should be expected during 2001 and beyond.

Question 2. What can we all do to ensure that the rest of the Western region is minimally affected by the crisis in California, because I don't want my home state of Colorado's resources and consumers hit by these problems?

Answer. There is clearly a need to act in a manner that restores the confidence of customers, policy makers and utilities in the competitive marketplace. However, quick fixes (e.g. rate caps) and/or re-regulation are not the answer, especially in states where substantial deregulation has taken place (e.g. generation divestiture in California). It is also important to note that commodity markets by their very nature are volatile and that restructuring is not meant to produce cheap stable prices, but is a means to competitive choice that should produce innovation and thereby result in customer benefit.

Today the west, California in particular, is confronted with a lack of generation capacity and flexible transmission paths. Normally, the availability of these assets would keep market price volatility at an acceptable and healthy level. Regulatory and political uncertainty has also served to reduce company's interest in new generation investment just when it is needed most. Moreover, the increasing reliance of new generation facilities on natural gas is putting extreme demand side pressure on energy markets.

Some short-term and medium-term recommendations for the crisis that confronts us are as follows:

Fix the Load/Resource Imbalance in the Short-Term

1. Dramatically retail rates on discretionary usage. With a price elasticity estimate of -0.1 in the short-term, a 50% in total electric bills would cause a 5% reduction in usage. The load reduction would equate to some 3,750 MW, just what is needed in the short-term for the WSCC crisis.

2. Ensure California gas storage injections are maximized. Whenever there is insufficient hydroelectric production, gas-fired generation is critical. Since most gas-fired capacity resides in California, having gas in California storage is effective insurance against failure to reduce loads through increased rates.

Promote Balanced Deregulation Programs

Competitive Market Rules should contain the following elements:

1. Price transparency—market price signals and information on consumption patterns for end-users,
2. Phase in by customer class thereby avoiding market inability to adapt to instantaneous change,

3. Alternate buying channels and energy purchasing flexibility to reduce price volatility (bilateral contracts, ability to use financial derivatives to hedge against price volatility).

Facilitate Timely Construction of New Facilities

1. Streamline siting and permitting process of new generation facilities,
2. Develop new gas supplies and construct additional transportation infrastructure,
3. Encourage alternate fuels for generation facilities,
4. Encourage new electricity investment by changing depreciation rules.

Sustain Utility Financial Stability

1. Require California to assume the full extent of utilities liabilities,
2. Utilities should be able to recover costs associated with performing “default” service,
3. Require California to compensate the PX for full market value of confiscated block forward positions.

Implement Market Monitoring Controls and Procedures

Require more sophisticated monitoring of market abuse or price manipulation by companies who produce power or supply it to utilities.

Question 3. I am skeptical of price caps. Many say they are likely a disincentive to investment in new generation. Won't they hurt in the long run?

Answer. Supporters of price caps frequently believe that a price of \$X, \$Y, or \$Z/MW should be sufficient to attract new investment. Generally speaking, this may be true. However, the dilemma occurs when investors in new generation operate under a price cap, but their power plant feedstock continues to be market based. The fuel provider takes most of the margin and the generator only makes money if the margin above fuel expenses can cover the capital charge and operating expenses. Accordingly, if a load/resource balance exists electricity caps serve to cause gas-fired generation to become uneconomic.

While wholesale rate caps may temporarily mitigate price increases in the market, a cap will surely reduce the effectiveness of price signals for demand-side options, negatively impact the willingness of developers to build new facilities, requires curtailment policies to be adopted in the event of supply shortages, and extend periods of uncertainty and price pressures.

The reality is that even in the short-term, power can and will flow to neighboring markets that can support prices above artificial caps. Utilities must counter by either disconnecting customers if sufficient supply is not available under the price cap or by ignoring the price cap and paying the market price for ancillary services or other mechanisms that do not have caps. These less efficient actions, justified in an effort to secure supply, require enormous cash. These cash outlays will compromise the liquidity of utilities and jeopardize further purchases of electricity. In the words of Mr. Allan Stewart of the PIRA Energy Group, “the irony is the obvious solution will be handed to you.” That is, sooner rather than later, loads will be lost at a huge long-term cost to the region.

At best, price caps are load-resource neutral, meaning that they have little effect on supply and demand and they will never be a solution to the imbalance of load and resources in the WSCC.

Cordially,

JOHN R. GALE,
General Manager,
Pricing & Regulatory Services.

APPENDIX II

Additional Material Submitted for the Record

[Due to the enormous amount of materials received, only a representative sample of statements follow. Additional documents and statements have been retained in committee files.]

R. JENNINGS MANUFACTURING CO., INC.,
Glens Falls, NY, January 22, 2001.

Senator FRANK MURKOWSKI,
U.S. Senate, Washington, DC.

DEAR SENATOR MURKOWSKI: One solution to the energy problem is to make the transmission lines public property like highways for trucks accessible to producers and users of power so commerce moves freely. High prices will attract investors to produce power for sale whereas today this will not happen as long as the power companies have monopoly control over the avenues of commerce.

Power sells for 12 cents/kwh and more, but costs 3 cents/kwh or less to produce. The profit margin to create incentive to invest is there. The transmission lines were mostly built more than 20 years ago and are therefore fully depreciated. The utilities have recovered their investment. There is almost no maintenance cost to transmission lines. Only the public utility commissions which sanction monopolies stand in the way of reduced power costs to fuel our economic-growth.

Do you remember only a few years ago the power companies were complaining about having to buy power from independent producers @ 6 cents/kwh? So under the banner of "deregulation" (Power Choice in NY) the power companies were freed of their obligation to buy power at 6 cents/kwh. Now there is a shortage of power.

Several years ago before Power Choice the CEO of Con Ed told shareholders Con Ed would not have to build another power plant until at least 2050, because so much co-gen power was available. Now that independents have no options where to sell power, Con Ed is considering a new power plant.

After the last gas crisis when cars were in lines at the gas stations the Federal Energy Regulatory Commission supported the requirement that public utilities had to buy independently produced power at 6 cents. Even at that low price old hydro dams were brought on line, and co-generation plants were built to convert garbage, bark, tires and many other items to power and steam. Power from wind, solar and gas turbines was generated. That spark has now been doused, but would be re-ignited by giving producers the opportunity to sell their power where they wish. In terms of our environment, most of these options are better than fossil fuels and have greater public acceptance than nuclear. If you release American ingenuity, the energy crisis will be resolved.

Our Company has no interest in the outcome, but we are very knowledgeable about the issues. Formerly we designed and supplied over 4000 high voltage substation and transmission projects. Today we are out of the power business, and we have no intention to be a supplier again.

Sincerely,

ROGER L. JENNINGS,
President.

IRRIGATION & ELECTRICAL DISTRICTS
ASSOCIATION OF ARIZONA,
Phoenix, AZ, January 29, 2001.

Hon. JON KYL,
U.S. Senate, Washington, DC.

Re: Current Economic Damage in Arizona Being Caused by the Distorted California Power Markets and Application of Environmental Regulations

DEAR SENATOR KYL: Since you have rejoined the Senate Energy and Natural Resources Committee, for which we are very thankful, we thought you could benefit from a brief report about the damage that electricity supply problems are creating for several utilities in Arizona because of the simultaneous impacts of the disastrous California power market and reduced federal hydropower generation in the Colorado River Basin.

As you already know, the San Carlos Irrigation Project (SCIP) is facing up to a 300% rate increase to some 3,000 Gila River Reservation homes and more than 8,000 homes off the reservation, many of them belonging to retired and low-income residents of rural Arizona. The Navajo Nation and the Tohono O'odham reservations face similar problems. Rural electrical and irrigation districts are increasingly strapped for cash because necessary power purchases in this horribly dislocated power market carry prices ten to twelve times the equivalent costs only this time last year. Our metropolitan areas have not escaped either. The City of Mesa, for instance, is facing serious impacts next summer because several of its contracts are expiring and it has no choice but to buy power to keep the lights on for its citizens.

At the very same time, environmental experiments at Glen Canyon Dam in Arizona, Flaming Gorge Dam on the Utah/Wyoming border, and the three Aspinall Units on dams on the Gunnison River in Colorado have combined to reduce the federal hydropower available at these Colorado River Storage Project (CRSP) facilities to be less than half the amount that those power plants are capable of producing. Suspending these experiments at Glen Canyon Dam and returning to full capacity, by itself, could produce enough additional power to substantially alleviate the problems of Arizona CRSP power purchasers, such as SCIP, Mesa, NTUA, ED-2, etc. Suspending March-April "water flattening" environmental practices at Hoover Dam could help as well.

We have consistently supported the concept of competition in retail electricity for the benefit of Arizona consumers. Indeed, most of our members have been in competition with other utilities since the 1920's. We also have supported the development of sound science to gauge whether power operations at federal dams on the Colorado River are adversely impacting endangered fish. The failure of AB1890, California's legislative experiment in partial deregulation, is beyond our understanding to repair. However, we have actively participated in the various Colorado River environmental studies for nearly two decades. The experiments continue. Several hundreds of millions of dollars have been spent and no conclusive results have been produced. Surely, these experiments could be suspended at least until sanity returns to the power market in the West. Scientists could study these "original Congressional intent" conditions, using new scientific-methods developed during these studies, and report to Congress the scientific baseline such studies would produce. Congress would be much better prepared to evaluate any later proposals for long-term restrictions on hydropower generation.

We hope this brief report and our views are helpful to you and the Committee in its deliberations beginning with Wednesday's hearing. If you see fit, we would be pleased to have this letter submitted by you for the record.

If we can be of further assistance or answer any questions you may have, please do not hesitate to contact us.

Sincerely,

ROBERT S. LYNCH,
Counsel and Assistant Secretary/Treasurer.

TUCSON ELECTRIC POWER COMPANY,
Tucson, AZ, January 30, 2001.

Hon. JON L. KYL,
U.S. Senate, Washington, DC.

DEAR SENATOR KYL: Thank you for the opportunity to share our thoughts with you on the California energy crisis as you prepare for tomorrow's Senate Energy and Natural Resources Committee hearing on this topic. Tucson Electric Power Com-

pany ("TEP") shares your concern that the breakdown of the California market may have serious negative consequences for Arizona and other Western U.S. markets.

Your staff specifically requested that we provide you with a copy of the information requested of TEP by Arizona Governor Jane Hull's office. My letter to Governor Hull is attached.* It provides a detailed analysis of TEP's potential exposure as a result of the breakdown of the California market.

Our immediate concern relates to financial exposure for sales into the California Power Exchange ("Cal PX"). We are hopeful that any solution being considered should focus on maintaining the solvency of the California utilities. TEP is subject to the Secretary of Energy's order to sell power into California, but we have not been ordered to do so yet. TEP has important obligations to our customers in Arizona and our shareholders that may be effected if we are ordered to sell into the current California market.

TEP is also subjected to system risk associated with the failure of California utilities to deliver energy in accordance with the terms of existing bilateral contracts. Of specific concern is the delivery to TEP by Southern California Edison of 110 megawatts of firm power during the summer months. Additionally, TEP is concerned that California's failure to properly provide for new transmission and generation will potentially impact the reliability of the Southwestern U.S. transmission grid in the heavily loaded peak summer conditions. We will of course undertake to operate our transmission facilities in such a manner as to assure continuity of service for our customers. However, the fact remains that the lack of appropriate generation and transmission reserves in California has created an unnecessary and inappropriate risk to reliability of the entire Southwestern U.S. power grid.

The longer term resolution of this crisis resides in the ability to construct a comprehensive national energy policy that appropriately balances our energy needs with environmental concerns. We must move quickly to fashion a policy that encourages an appropriate mix of proven fuel sources—coal, natural gas, hydro and nuclear—while accelerating the development of solar, fuel cells and clean coal technologies. TEP strongly supports provisions in Chairman Murkowski's draft energy legislation that would provide tax credits for the development of new energy resources and create a more reasonable and timely process for siting new facilities. We can no longer afford the delays in bringing new generating and transmission facilities on-line created by the current layering of local, state and federal regulations.

Until otherwise advised, we will copy your office on all correspondence with Governor Hull's office relating to the California energy crisis.

Please let us know if we can provide any further information or assistance to your office or the Senate Energy and Natural Resources Committee.

Sincerely,

JAMES S. PIGNATELLI,
Chairman, President & CEO.

PHELPS DODGE CORPORATION,
Phoenix, AZ, January 30, 2001.

Hon. JON L. KYL,
U.S. Senate, Washington, DC.

Subject: Economic Impacts of the California Power Crisis on Western States

DEAR SENATOR KYL: Thank you for the opportunity to comment on the economic impact of the California power crisis which is now being felt throughout the West.

The economies of the Western states are intricately linked and interdependent. At no time in recent history has that mutual reliance been more critical than in the last eight months, when market demand exceeded the capacity of the shared power grid that delivers electricity to residents, communities and businesses in the West.

In late Spring 2000, the shortage of power in California and that state's severely limited generating capacity became evident. By mid-summer, temperatures in the West were on the rise, driving up the demand for power. The shortage in California and the increased demand for energy in the West drove energy costs to astronomical levels. By December, skyrocketing power costs forced some industrial power users into a non-competitive operating environment, ultimately causing production curtailments and employee layoffs in Montana, Washington and Oregon. Exacerbating the California shortage is a continuing drought in the Pacific Northwest, which has limited hydroelectric power generation.

*The letter has been retained in committee files.

The unpredictability of power transmission also has exacerbated the economic ripples caused by the California power crisis. One such example is the Kinder-Morgan Santa Fe Pacific pipeline, a transporter of petroleum fuel from California to Arizona, which was forced to shut down when its power was temporarily terminated by the California utility that held its interruptible power contract. The shutdown sent the end-users of diesel fuel, including Phelps Dodge, on an urgent search for an immediate, alternate source of diesel fuel.

In 2000, Phelps Dodge was hit hard by energy-related costs. Market power costs increased more than 300 percent; diesel fuel costs rose 65 percent; and natural gas, used primarily in our self-generating power plants, realized price increases of 171 percent. Further, our mining and metals processing facilities operate 24 hours per day, 7 days per week, 365 days a year. Unscheduled shutdowns, start-and-stop production interruptions, and the last-minute unavailability of energy-related resources wreak havoc on our production-cost structure. With no short-term relief in sight for the first half of 2001 on either energy-related costs or resource availability, we recently informed 2,350 of our Arizona and New Mexico employees that production curtailments and temporary job cuts may be necessary.

For industrial users of power, diesel fuel and natural gas, the California power crisis has triggered a number of economic dominoes to fall, the effect of which has not yet been fully realized by the communities, companies or residents of the West. Until the power crisis is resolved, its negative impact on industrial facilities in surrounding states, including Phelps Dodge operations in New Mexico and Arizona, may be enormous in terms of additional plant closings and employee layoffs. On a broader scale, the energy crisis has the potential to be a catalyst for accelerating and deepening the economic slowdown we are experiencing in the United States. In New Mexico and Arizona alone, the annual impact of the announced Phelps Dodge curtailments, if required, would have a negative economic consequence of nearly \$1 billion.

It is incumbent on those of us in leadership roles within the private and public sectors to work aggressively, diligently, cooperatively and creatively to pursue every immediate opportunity to minimize the impact of these extraordinary energy-related circumstances on our businesses, our employees, and our communities, and to insure our global competitiveness.

For long-term solutions, a number of variables must be addressed, which include, but are not limited to:

- the development of a national energy policy that takes into account the availability, accessibility and allocation of energy resources; population growth; geographic population shifts; and the growth of new business sectors; all of which impact the supply/demand balance of electricity and fossil fuels;
- engagement of consumers in order to 1) inform and educate them about the magnitude of their energy-consumption patterns, and 2) “incentivize” them to make conservation a reality through energy-efficient utilization of our natural resources;
- the identification and development of additional fossil fuel resources within the United States, including the increase of natural gas development in the near term; and
- a thorough review of the regulatory approval process, including the creation of a more streamlined and time-certain permitting process which ensures that power-generating capacity and vital transmission requirements are developed through a reasonable and achievable process that is mutually conducive to environmental stewardship and economic prosperity.

In the last decade, the citizens of the United States have enjoyed one of the strongest periods of economic prosperity in the history of our country. Our economic growth can be attributed, in part, to the burgeoning service, hi-tech, and information-based sectors, as well as to our strong appetite for all of the conveniences associated with enjoying the highest standard of living in the world. Unfortunately, some of us also have developed amnesia—amnesia about the necessity of essential industrial underpinnings, including power and energy, that support and drive all robust economies.

The California power crisis provides us with an opportunity to identify new ways for communities, consumers and companies to thrive in an economy that is both energy-sufficient and energy-efficient. The employees of Phelps Dodge and many other companies throughout the West are counting on us to reach resolutions and deliver solutions to this crisis as quickly as possible.

I appreciate the opportunity to present our concerns and views on the economic impacts of the California power crisis. Please know that you can call on me, and

other members of the Phelps Dodge team, if we can be of assistance in resolving this important issue.

Sincerely,

J. STEVEN WHISLER,
Chairman, President and CEO.

WESTERN GAS RESOURCES, INC.,
Denver, CO, January 30, 2001.

Hon. FRANK MURKOWSKI,
Chairman, Senate Committee on Energy and Natural Resources, Dirksen Senate Office Building, Washington, DC.

Re: Oversight hearing to receive testimony on California's Electricity Crisis and Implications for the West

MR. CHAIRMAN: I am writing on behalf of Western Gas Resources, Inc., ("Western"), its employees and shareholders to make you aware of serious concerns that I have regarding the ongoing situation in California. Western is based in Denver, Colorado, and operates gas treating, gathering, processing, and transportation facilities in Colorado, Wyoming, New Mexico, Oklahoma, Texas, and Louisiana. We are, with our partner, the largest producer of coalbed methane gas in the Powder River Basin of Wyoming, one of the nation's brightest hopes for natural gas supplies.

The Temporary Emergency Natural Gas Purchase and Sale Order (the "Order"), extended by the Secretary of Energy through February 6, 2001 is compelling Western to continue to provide natural gas supply to Pacific Gas & Electric Company with no assurance that Western will be paid for this gas. Western would not, in the ordinary course of business, provide natural gas on credit to a customer in such an uncertain financial condition. Under this arrangement, Western and our shareholders are uncertain of our ability to collect payment for the gas delivered and are essentially bearing the burden of failed deregulation in California. The State of California and the utilities involved have the tools to solve this problem, and must be expected to make the difficult decisions necessary to address both the short and long term energy needs of their state.

Western is certain you are aware of the events leading up to the current situation in California. The essential elements of the process of deregulation begun in 1996, from our perspective, are as follows:

- The Investor Owner Utilities (IOUs) divested themselves of the majority of their natural gas fueled generation facilities. For Pacific Gas & Electric (PG&E) and Southern California Edison (Edison), natural gas fueled plants represented approximately 34 percent of their generation capacity. The goal of these divestitures was to increase the number of generation owners and thereby increase the competition among power suppliers.
- The IOUs were granted a freeze on rates to their customers at a rate higher than prevailing prices at the time of deregulation. The rationale for locking rates higher than market was to allow the IOUs to recoup from its customers "transition costs" associated with the shift to an unregulated environment. File transition costs included net costs associated with extinguishing long term gas supply arrangements, previously un-recovered nuclear plant costs and other losses associated with the transition to an unregulated environment. Following recovery of these transition costs, the rate freeze to the IOUs' customers would cease and the customers would see a pass through of market rates going forward.
- Having sold off nearly all of their natural gas fueled generation plants, the IOUs needed to purchase power to offset the loss of this generation capacity. In an attempt to insure a robust and competitive market for power, the legislation required that the IOUs buy physical power under so called spot or daily purchase agreements administered by new market clearing mechanisms called the California Power Exchange (PX) and the Independent System Operators (ISO). The IOUs were discouraged from mitigating their price risk through financial hedging, exposing them to unknown purchase expense through the new clearing mechanisms while simultaneously being held to a fixed sale price obligation to their customers. The fixed rate was approximately \$65 per MWhr. The purchase price at the onset of deregulation was between \$15 and \$50 per MWhr, depending on time of day and season.
- Beginning in the early summer of 2000, spot wholesale power prices in the west rose significantly, at times exceeding \$1000 per MWhr. This rise is attributed to several factors; (1) a significant increase in demand in California and the rest

of western North America, (2) a decrease in the availability of hydroelectric supplies in the Pacific Northwest, (3) a lack of new power generation construction in California in the last decade dictated by state and federal environmental policy and political pressure and (4) an increase in natural gas prices. PG&E and Edison were still selling power for around \$65 per MWhr, and paying up to the \$1000 per MWhr to buy it. A cash hemorrhage began. The differences between the price paid for power and the price for which it could be sold have now exceeded \$11 billion dollars with no end in sight. This loss has swamped the utilities' ability to borrow and has resulted in their default on commercial paper obligations. Recognizing a possible bankruptcy situation, gas suppliers like Western began to express concerns that they would not get paid.

- Reacting to concerns that the flow of power and gas to these utilities would be curtailed owing to suppliers' payment anxieties, the Secretary of Energy issued orders requiring selected gas suppliers to continue deliveries. The current order expires February 7, 2001. No further assurances of payment have been made to gas suppliers and no actions on the part of the utilities, the State of California, or the federal government indicate a solution is in sight.
- Governor Davis has repeatedly stated his opposition to further rate increases so it is unclear what company, industry, taxpayer or ratepayer in what western state will be asked to ultimately shoulder the burden of this regulatory scheme gone awry.

Given these events, I have the following recommendations to resolve the California's crisis:

1. Consumers in California cannot be expected to moderate their consumption when they are isolated from the consequences, in this case pricing. The CPUC has to modify retail rates and or rate structures to send consumers accurate price signals so they can adjust their consumption accordingly.
2. Wholesale prices must be allowed to fluctuate with market conditions. Price caps on either electricity or fuels for generation, such as natural gas, discourage investment in the development of these resources.
3. Regulatory hurdles that inhibit utilities from creating a portfolio of long term, short term, and financially hedged exposures to electricity and fuel costs must be corrected.
4. Impediments to construction of power plants and related transmission lines need to be examined and responsibly reduced in areas that are short of generation capacity. The State of California must make the difficult choices required to develop their energy infrastructure in response to growth.

Secretary Abraham must not extend the Emergency Order requiring Western and others to continue to supply gas to California without further assurances of payment. Let me be clear. If we had sold this gas to some other creditworthy party and thereby avoided being subject to the Order, our margin would be just about break-even. Western now faces losing the full value of the gas. Ongoing assertions that out-of-state suppliers are gouging California utilities are, at least in our case, patently false. Setting aside the legality of the Orders themselves, it is fundamentally unfair to ask my company and our shareholders to bear the cost of California's inability to manage its energy needs.

On behalf of Western, I appreciate the opportunity to share my thoughts on this matter. At a time when our nation faces real energy supply issues, I would like to get back to focusing on our business objective of producing and supplying the natural gas our nation needs. It is my sincere hope that your time and that of our other energy policy officials can quickly be refocused on developing a sound and sustained national energy policy. If I can be of further assistance to you, please call me.

Sincerely,

LANNY F. OUTLAW,
President and Chief Executive Officer.

MORRISON & FOERSTER, LLP,
Washington, DC, February 21, 2001.

Hon. FRANK MURKOWSKI,
U.S. Senate, Chairman, Senate Committee on Energy and Natural Resources, Washington, DC.

DEAR SENATOR MURKOWSKI: We are submitting two news articles for inclusion into the record of your Committee's hearings on the California Energy Crisis. These articles are from the Wall Street Journal, California Edition, and the Los Angeles Times, Orange County, regarding AES' efforts to restart two mothballed units in Huntington Beach, California. If the necessary permits can be secured, AES would

bring on line 450 megawatts of generation to help meet next summer's energy needs in California. We also enclose AES' recent firm announcement on its plans to reactivate the Huntington Beach units.*

AES is the world's largest global power company, which 19 years ago began developing, building and owning cogeneration plants in the U.S. AES' experience includes owning generation businesses in competitive markets in Australia, Argentina and England and Wales. In California, AES has owned and operated a 125 MW combined cycle power plant in Santa Clarita since 1988. Ten years later, we purchased from Southern California Edison power plants in Redondo Beach, Huntington Beach, and Long Beach representing 4000 MW.

Please let us know if you have any questions.

Sincerely yours,

ROBERT LOEFFLER,
Attorney for AES.

ENRON CORP.,
Houston, TX, February 26, 2001.

Hon. FRANK MURKOWSKI,
Committee on Energy and Natural Resources, Washington, DC.

DEAR MR. CHAIRMAN: Thank you for providing Enron the opportunity to testify before the Senate Committee on Energy and Natural Resources on January 31st. I will here elaborate on a couple of solutions I mentioned in my testimony and provide an update on the California crisis.

We are running out of time in California. This summer we are expecting a capacity shortage of 10% during on-peak hours. With normal weather and currently forecasted hydro conditions, California will face persistent, random blackouts.

California is not solving its problem. While there have been some welcome efforts to encourage conservation and expedite the movement of applications through the byzantine power plant approval process, most of the activity has now shifted to an effort to "nationalize" California's electricity industry. Legislation to put the state in the power generation business and establish state ownership of California's portion of the interstate transmission system is rapidly moving through the state legislature.

This legislation will only make matters worse. While giving the appearance of decisive action, a government takeover of the state's electricity system can only delay an honest reckoning with the very real problems that lay at the heart of the crisis. State ownership will not increase supply or reduce demand by a single megawatt. (Further, if previous experience with state-owned enterprises is any guide, it will likely reduce efficiency and reliability.) Worse, the measures in front of the California legislature will actually hinder or thwart entirely the ability to craft workable solutions to the supply-demand problem that undergirds the current difficulties.

At the most fundamental level, these efforts distract resources from actions that could actually help resolve the crisis. Beyond that, they present several significant problems. First, the reliability of supplies throughout the West depends on an open grid to move power from where it is to where it is needed. California's protectionist measures will only invite countermoves by other states, many of whom California needs to provide it with adequate supplies. Second, unless the state overpays substantially for the utilities' transmission assets, these steps will leave the utilities no better off than they are currently. Whether the utilities hold the assets themselves or their value in cash makes no difference at all to their overall financial position or to the willingness of creditors to continue dealing with them. Third, by funding the purchase of the assets with public monies the state proposes to divert its hard-won surplus away from schools, hospitals, law enforcement or other appropriate public uses, and toward a business it doesn't belong in. By proposing to buy the grid with money taken from its citizens in the form of taxes rather than higher electric rates, the state continues to mask the true cost of power to California's consumers while simultaneously driving out the private enterprises that could bring those costs down. The only discernible merit of these destructive proposals is their perceived political, appeal to a constituency that views rate increases as anathema.

Let's put these legislative proposals in the context of hard realities in the state. California entities are not paying their bills for power purchased. Because their rates are frozen, California customers don't know the cost of the power they are using—so they don't conserve when prices increase. Meanwhile, they unwittingly pay the true cost through the depletion of the state budget surplus. Instead of re-

*The enclosures have been retained in committee files.

ducing prices by lowering demand, the state calls for reregulation and price caps (while neighboring states must raise their own rates and make up California's supply shortfall). Legislation to give the state condemnation authority over private businesses and facilities is moving through the legislature. In short, California is building an "electric fence" around its borders, and telling private capital—which is desperately needed—to go elsewhere.

I suggest the following:

- The effort to carve off California's portion of the interstate grid from the rest of the West must be stopped.
- Instead, federal policy makers should focus on fully opening the power grid across the country to ensure the movement of power from where it is to where it is needed. California is not the first, and will not be the last, to attempt to interfere with interstate commerce in the power sector. Our nation's grid is more reliable and more efficient if it is open. As supplies tighten around the country, the problems we are seeing in California will be repeated.
- California must reform its environmental permitting process. The irony is that the current system actually reduces air quality by keeping new, more efficient plants off the grid while decades-old facilities that emit NO_x at levels 40 times higher, continue to run.
- California must institute a program of demand "buy downs." There is not enough time to build new generation for this summer. But, the state could take bids for voluntary demand reductions. This will reduce prices more effectively than price caps and will reduce or avoid involuntary blackouts. California is tapping into an enormous amount of money from the General Fund to finance DWR's power purchases. California could likely reduce demand more economically by running an auction to determine the payments businesses would be willing to receive to reduce their demand for a sustained period (e.g., through the summer months). DWR could easily run an on-line auction to determine the price it could pay for these demand reductions. To participate, businesses would be required to have the metering equipment necessary to monitor and verify that they are, actually achieving the reductions. To be successful, customers need access to the following key elements:
 - An internet based hour-ahead price posting system to track the market price for hour-ahead power in real time.
 - Real-time metering systems for baseline demand and voluntarily curtailment verification.
 - A Settlement process that allows for market clearing prices of energy to be paid for load reduction ("Megawatts").
 - The potential benefits of an effective demand response program would include:
 - "creation" of additional summer peaking capacity in California, particularly in the short term, without requiring additional generation resources.
 - reduction of peak or super-peak load on the over-stressed California electric system, thus potentially reducing the overall cost of electricity in the state.
 - expansion of demand elasticity without subjecting customers to the full risk of hourly market price volatility by passing market price signals to customers and allowing them to voluntarily shed load and be compensated for responding.

Just as important as getting these things done, is avoiding those measures that will make matters worse. In addition to the ill advised state takeover of the industry discussed above, price caps will compound problems in the West. "Soft" or cost-based caps have not worked in California—they left many sellers unwilling to sell, they reduced competition from marketers whose cost structure simply does not conform to traditional cost of service ratemaking, and they left California power purchasers scrambling at the last minute to buy power to avoid further blackouts. They only add to the uncertainty sellers face in deciding whether or not to invest or make sales. Cost of service ratemaking is at best a poor substitute for market pricing (which is why it is avoided for all services except monopoly services such as transmission and distribution). Rate proceedings are contentious, often political and extremely lengthy proceedings. They are particularly ill suited to situations like those we find in the West today (i.e. extremely volatile cost components such as fuel and emissions costs). At a time when investors need assurances that the power business will not be "reregulated", price caps will only exacerbate the already short power supply situation. There is a way to get prices down: increase supply or reduce demand. The solutions outlined above do exactly that. State takeovers and regulated

rates do not. Instead, they leave policymakers with the worst possible task: deciding whose power to turn off. West-wide price caps will make this even worse: how will western states decide, for example, whether Idaho agriculture or California's high tech industry is more deserving of power during any given hour?

Overall, California policy makers must adopt a laser-focus on measures that increase supply or decrease demand. Any measure that does not accomplish one or both of these objectives is a waste of time at best. At the same time, federal policy makers should focus on opening the interstate grid so that power can move from where it is to where it is needed.

Since fixing the market is the ultimate goal we are very encouraged about your proposed legislation and your leadership on this critical issue. Your legislation addresses the fundamental issue of how the United States can efficiently and expeditiously develop its energy resources. Enron is encouraged that many of the provisions contained in the legislation will improve the current investment climate.

However, we are concerned that a critical component of energy investment has not been included. Specifically, we are concerned that the issue of fair and efficient access to the nation's interstate power transmission grids is not being addressed by the proposed legislation. Non-discriminatory access to transmission facilities is a fundamental component of investment in generation and supply. So long as it is US policy to promote competition in generation and supply, such access must be provided. There is no middle ground. If fair terms and conditions of access will not be achieved in a timely manner, the benefits available from competitive markets will be denied consumers.

Again, I thank you for the opportunity to share Enron's observations with you and look forward to continuing to identify real solutions to this crisis.

Sincerely,

STEVEN J. KEAN,
Executive Vice President and Chief of Staff.

STATEMENT OF MARCIA MERRY BAKER, ON BEHALF OF EIR ECONOMICS

DEAR CHAIRMAN MURKOWSKI AND MEMBERS OF THE COMMITTEE: As of the point of your Jan. 31 hearing on the California energy crisis, the evidence from all around the country showed clearly that we are neither in a "just-one-state" problem, nor in a mythical "supply-and-demand" energy imbalance. Instead, we face an overall, systemic financial crisis, involving hyperinflation and economic breakdown. The publications associated with the EIR News Service have thoroughly documented what led up to this situation. The question now before lawmakers and citizens everywhere—not just in the United States, but internationally, is to recognize the nature of the crisis, and take the appropriate steps. Addressing this directly, is a new policy document by Lyndon LaRouche, prepared Feb. 4, and now in circulation as a mass distribution national pamphlet, by his Presidential candidacy committee (LaRouche in 2004). LaRouche's policy calls for RE-REGULATION, and measures to manage the current energy system, and to begin reconstruction for the near future. There has been great demand for this approach, which is the traditional "American System" approach that built the energy grid in the first place, especially from the period of Franklin Delano Roosevelt.

STATES DEMANDING RE-REGULATION

At present there are initiatives for RE-REGULATION, or postponing deregulation of energy, in most of the 26 states which have taken some form of deregulatory action. LaRouche's policy document addresses not only what action must now be taken to restore the energy base of the nation, but what kind of weak-mindedness allowed this mess to develop in the first place.

As the public is now confronted with the horror of unpayable energy bills, and the prospect of food hyperinflation, manufacturing shutdown, and the process of economic chaos, many are prepared to review and reject the lies and inducements that led them to accept the premises and propaganda of deregulation in the first place—not only for energy, but for transportation, health care, and all vital sectors.

Therefore, in this testimony, we will not provide documentation on the scope of the crisis—whose details are now clear, by the hour, from every state in the nation. We will quote, in brief, from the LaRouche policy document on the responsibilities of the federal government to respond.

But first, one mention, of what Members of Congress have a special duty to confront. Namely, the Bush Administration has no ordinary conflict-of-interest bias towards continuing its current commitment to energy deregulation, in the face of the conspicuous economic destruction and hyperinflation underway. Not since the days

of Britain's George III and the British East India Company, has there been such a notorious imperial "special relationship" between the government and "business," as the Bush Administration's connections with the energy cartel companies. The interlink of board members, money flows, favors, and behind-the-scenes deals, involves many prominent names, including Enron, Dynegy, Reliant, El Paso, Williams, Duke Power, Dominion Resources, and New Power, as well as BP-Amoco, Mobil-Exxon et al—to name just a few.

EIR News Service has reported on this extensively, and will gladly provide documentation. The political character of this network can best be summarized as, "Southern Strategy, Inc." Historically, the current period in history, will be viewed as one of the politically filthiest ever, ranking with the days when Venice pillaged the Mediterranean. For handy reference on obvious connections, read Business Week, Feb. 12, cover story, on "Power Play—Enron, the nations' largest energy merchant, won't let California stand in its way."

It's all coming out in the open. The real nature of the energy deregulation trend—namely that it was restructuring for the purpose of allowing private firms new, massive profiteering opportunities, is now becoming clear even to the most ideologically blind "free market" advocates. Deregulation, privatization, and globalization originated under the Margaret Thatcher 1980s regime in Britain. Its destructive effects are now notorious there, and we are seeing the same results hit the United States, and other places around the globe—wherever "de-reg" looting has been allowed.

WHAT FEDERAL ACTIONS ARE REQUIRED

This Congress is on the spot. What must be done, is here explained by LaRouche, from his Feb. 4 document, "On the California Crisis—As Seen and Said By the Salton Sea."

"Soon, unless President George W. Bush abandons his present ways, his policies are now going to lead his Administration toward a point, in the rapid unfolding of the current California energy-crisis, at which Bush will be confronted with a global crisis so horrifying, that most of you would not now even try to imagine it. The exact time that point will be reached, may vary slightly, according to which detours are tried; but, nonetheless, it will be reached very soon.

"For your own good, you, and President Bush, had better find the courage to face up to that reality, now, before it is too late. For the sake of all of us, please permit me to lead you, step by step, into discovering for yourselves, what it is that you need to know, if we all are to work our way out of this mess.

"The most important political issue now confronting all of the most intelligent and moral citizens of the United States, today, is: How could we prevent that terrible thing from happening? The only available, intelligent answer to that question, has two parts to it. First, speaking from a strictly technical, administrative standpoint, what kind of U.S. policy would bring this crisis quickly under control? Second, to speak politically, what are the chances, given President Bush's presently stubborn attitude on the subject, of bringing his administration around to accepting the needed, drastic changes in U.S. economic policy before it is too late to do so?"

THE SPECIFIC STEPS LAROCHE RECOMMENDS: FIRST STEPS

"The first step which must be taken, is to put the entire, formerly regulated sections of our nation's energy industry under Chapter 11 bankruptcy protection. This does not necessarily mean putting each entity into bankruptcy; it means putting some entities under Chapter 11 protection immediately, but it also means putting the protective umbrella of Federal and state government threat to provide such protection to any relevant entity within the domain of maintaining national and regional energy security.

"As a leading feature of that use of Chapter 11 methods, bankruptcy reorganization must be conducted to further the aims of immediate reinstatement of former types of Federal and state regulation of the generation, and distribution of the nation's energy supplies, that at prices sustainable by businesses and typical households, and consistent with pre-2000 trends in such prices.

"The difficulty in taking those urgently needed forms of corrective action, is not only that deregulation has become, like cocaine, a habit; but that the financial interests associated most closely with the campaign for the election of the present administration, represent chiefly a Southern Strategy-based complex of financial interests which are deeply committed to defending the revenues from activities which are choking California's economy to death at this moment.

"If all among those interdependent courses of action are not taken, no real solution to the presently skyrocketing crisis is possible. In that case, the Bush Adminis-

tration would come to be seen soon as more or less doomed from the outset, hung, so to speak, by the rope which supported its election.

"The Franklin Roosevelt precedent is to be understood to be applicable to this case. The mission is to defend national economic security, as the principle of promotion of the general welfare and national security of all of the population and its posterity, defines the meaning of law under our Federal Constitution, absolutely contrary to the errant opinion of some text-offenders among the U.S. Supreme Court justices.

"The prices and assured, regulated flow of the stream of electrical and related supplies, must be immediately re-regulated by the standard of pre-1977 precedents. This regulation should be Federal, insofar as interstate commerce or national security requires, and shall be otherwise left to the states, but with Federal support and guidelines, as needed for coordination among the states . . .

"These emergency measures of re-regulation must be complemented by a new matrix of combined, short-term, medium-term, and long-term national energy policy.

SHORT-TERM ENERGY POLICY

"For the moment, we must operate on the working assumption that we have presently available to our nation, approximately sufficient capacity for generation and distribution of required energy-supplies. Major generating installations, and their matching grid-system elements, presently require periods in the order of three to five years to install, even if high priorities are assigned to such installations. Increasing of capacity for refining and delivering fuels also requires lapsed time. That means, that only certain marginal adjustments in primary energy-supplies are feasible during the year or two immediately ahead.

"The suggestion that floods of fuels or electricity from abroad would overwhelm the price-crisis, is a childish delusion. No cheap theatrical stunts of that sort will work. Saner people will concentrate on managing what we have, while beginning to build for the medium and long term ahead.

"For the relatively short-term period ahead, arranging supplementary supplies for critical points in the grids, will be needed, in the manner of shoring up weak points in the dike. This will be applicable to the needs for improvements in the quantity of supplies, and for improvements in spots of less reliable performance within the regional distribution grids.

"Among the required priorities, there must be a cautious avoidance of over-reliance on what might be an excessively extensive scope of load-frequency distribution operations. A large degree of local and regional ability to isolate systems from potential calamities in the broader distribution grids, should be considered a ability to isolate systems national security priority. "Just-in-time" and "justly barely enough" practices must be avoided, that as a matter of national economic security. There must be built-in slack within the system, both nationally, and regionally; there must be ready reserves available . . .

"Among included measures, the following are to be considered. The use of jet-engine complexes, as relatively mobile auxiliary power generation for patching up the distribution dike, is typical of the kinds of short-term actions available. The logistics of fuel supplies, for this purpose, is an integral part of that.

"Meanwhile, there must not be reliance upon hydroelectric sources to the degree that such uses might undermine the relevant water-management systems' other essential functions. The primary mission of water-management systems, should be water-management, from which hydroelectric generation serves as both an integral feature and a by-product. The environmental impact of drawing down the water reserves, as a way of avoiding government's responsibility for actions which some political interests might not like, is something this nation need not, and should not tolerate.

MEDIUM-TERM POLICY

"The notion of medium-term energy policy is pivoted on the observation that, at present, three to five years is required, to install a completed electrical generating facility of one to two gigawatts average output-capacity. Most desirable, are facilities which would supply process-heat and synthetic fuels, such as hydrogen and methane, for local and regional industrial and other uses.

"On this account, medium-term energy policy overlaps long-term policy. The principal generating plants of the system as a whole, are constructed with an intended useful life of about a quarter-century, or longer; major hydroelectric installations significantly longer. These principal installations involve capital expenditures, and related financing arrangements, at rates which should be sustainable in the order of 1-2% simple interest, amortizable over long-term periods.

“Given the reality of the awful financial crisis threatening our nation’s, and the world’s banking systems now, the resurrection of an adequate energy-system for our nation, will require a long-term credit facility of a special type, with a special mission-assignment. There must be a Federal authority which coordinates this, and provides Federal credit for facilitating long-term investments in medium-term construction and rehabilitation of generating and distributing capacities.

“In connection with this same point, we must not separate national energy policy from its natural relationship to the financial systems of banking and pensions. Regulated systems of national basic economic infrastructure, operating at low simple interest rates, are the broad base of the pyramid upon which to build national economic growth in depth. This pertains to the natural complementarity between the functions of local and regional banking, and the development of the basic economic infrastructure and communities of the region in which the banker’s market is most usefully situated.

“The U.S. experience of the Reconstruction Finance Corporation and Germany’s Kreditanstalt für Wiederaufbau, are models of reference for such rebuilding and long-term development programs.

“This has special importance for national banking and other policies at this present time. The perilous conditions of speculation-ridden private banks at this time, and the need to save those banks as functioning institutions, sometimes almost despite themselves, requires that Federal and state government act to foster the growth of a solid new base of bank assets, by aid of which to manage the difficult work of financial reorganization of banking institutions which must not be allowed to fail, even though they be awfully bankrupt.

“The fostering of public sponsorship of large-scale investment in maintenance and improvement of long-term basic economic infrastructure, is still, today, the most solid foundation available for mobilizing combined public and private resources for a national economic recovery along lines typified, by the work of the Reconstruction Finance Corporation and the Tennessee Valley Authority, during President Franklin Roosevelt’s tenure. Clearly, Federal policy and action now, must reference those highly successful precedents.

“In such matters, we must always shape the implementation of any important policy, especially those of medium-term and long-term impact, with regard to their impact upon the so-called “macroeconomic” totality in which such undertakings are situated. The interdependency among large-scale infrastructure programs, regional and local banking, and general community and business development within a region, must be the minimal setting within which infrastructure policies and programs must be defined.

“In that vein, consider the following.

“The location of prospective such plants, must be subject to Federal, as well as state, local, and private initiatives. In any rational form of U.S. national law and related policy, the requirements for power, as measured in even such raw figures as kilowatts per square meter, are subject to the same types of policy-planning as national railway, waterway, and highway projections. Geography and related considerations indicate where such facilities may lie, optimally, over the decades and generations yet to come.

“In such respects, the kind of long-term energy-policy under which directions for medium-term actions are subsumed, resembles long-term general staff planning in the military domain. The indispensable role contributed by West Point graduates, as engineers, in building up the basic economic infrastructure of our nation, is among the experiences which reflect the principles involved.

“Medium-term policy in this area must take into account, that since the beginning of the Carter Administration, there has been a catastrophic collapse in U.S. energy national security, as a reflection of the combined failure to develop new generation, and attrition of pre-1977 installations. The coming four years in energy policy, must be directed to clearly concretized goals, as defined from a long-term perspective, in choices of locations and numbers of newly constructed generating capacities and in related improvements in grids.

“Also, present policy-making for the medium, and long term, must take into account, that throughout the world, there have been significant, qualitative advances in the standards for types of designs of generating plants. Two implications of this, are not to be overlooked in projecting national energy policy for the medium term.

“In this connection, we must also recognize a complementarity between needs for new installations inside the U.S.A. itself, and what should become a growing vast market for such installations in other parts of the world.

“Our national policy must foster the resurrection of U.S. capital-goods-producing capacity lost over the recent quarter-century, with the intent of fostering the re-appearance of firms which find the base-line for their market in combined domestic

and foreign requirements. Such a marketing perspective warrants acceleration of scientific and related technological progress in this field of capital goods production and installations, and indicates a corresponding requirement in even the medium-term programs of our universities and related institutions.

“This also points to the need for permanent functions of our Federal government, to bring together the public and private interests and agencies which will contribute crucial parts to implementing such a perspective.

LONG-TERM POLICY AND ENVIRONMENT

“It should come to be understood, that ‘long-term energy policy’ has two distinct, but complementary meanings for practice. In the first approximation, it signifies the intended cumulative effect of adding generating facilities which each could be installed, usually, during periods of three to five years. It should also mean something distinctly more profound; we should see energy policy in terms defined by the celebrated biogeochemist Vladimir Vernadsky’s conception of the noosphere.

“To make this clear, I summarize Vernadsky’s conception, resituating it in the setting of my own original work in physical economy, and correcting some widespread, but incompetent popular opinion on this subject.

“Vernadsky is famous for defining the term ‘biosphere,’ as signifying that our world’s atmosphere, oceans, and much of the surface of the Earth down tens of kilometers, is, increasingly, the natural product of the action of living processes upon the otherwise non-living Earth as a whole. He went further, to emphasize that the rate at which the biosphere itself is growing, is increased by the creative economic activity of mankind. Thus, he defined our planet as, in the first instance, under the reign of a biosphere, which is, in turn, under the reign of a creative force, human creativity. Vernadsky then defined this superimposition of the noetic powers of creativity, unique to the human species, upon the biosphere, as through physical-economic activity, as the noosphere.

“That means, that we must view mankind’s development of what we call basic economic infrastructure, as functionally an extension of the biosphere’s role in generating and sustaining the preconditions needed for human life.

“Therefore, domains of public interest such as mass transportation, water management, improvements of fields and forests, and production and distribution of energy, must be viewed as what Vernadsky would term the natural products of the noosphere, just as he classified atmosphere, oceans, and so on, of pre-human Earth, as natural products of the biosphere. From a standpoint of modern economy, the development of general basic economic infrastructure, and our maintenance and improvement of the biosphere, are to be seen as a continuous, single process within the noosphere. Among the relevant points to be stressed, is the beneficial role of rational development of basic economic infrastructure in improving what would be otherwise called the biosphere.

“This means, that one of the goals of public administration, is to ensure that the land-area of the world is improved, as a biosphere, to the effect of enhancing the conditions required for human life.

“To this end, I, in my function as a specialist in the science of physical economy, have introduced a refined notion of what I and my associates have introduced to Eurasian policy-deliberations as “development corridors.” This is to be seen as an extension of what American System economists Friedrich List and Henry C. Carey defined as the function of a transcontinental railway system, such as those which integrated the U.S.A., from Atlantic to Pacific, as functionally a single national territory.

“If we examine relevant examples from both ancient and modern history accordingly, we should recognize, rather readily, that it is necessary to correlate general transportation routes, with power generation and distribution, and with water management, all under a single, unified conception. By developing corridors of this type, in bands of up to fifty miles or more in breadth, we create the preconditions under which what is economically otherwise more or less marginal land-area within a continental interior, is transformed into highly productive, economically fertile area.

“If we approach such pathways of development appropriately, the effect of such development is, to enhance the biosphere for man’s existence, not, as many misinformed persons have feared, the reverse.

“The present crisis, born out of the follies of U.S. policies (in particular) during the recent thirty-five years, has brought us to the time, that our properly informed concern for the coming generations of our population, should impel us to develop and adopt long-range policies whose effect on the noosphere, is to enhance the condition of the nation and the world bequeathed to our descendants . . .”

STATEMENT OF CRAIG G. GOODMAN, PRESIDENT, NATIONAL ENERGY
MARKETERS ASSOCIATION

I. INTRODUCTION

My name is Craig G. Goodman. I am submitting this testimony as President of the National Energy Marketers Association (NEM). NEM is a national, non-profit trade association representing a regionally diverse cross-section of both wholesale and retail marketers of energy and energy-related products, services, information and technology throughout the United States. NEM members include: small regional marketers; large international wholesale and retail energy suppliers; energy consumers; billing firms, metering firms, Internet energy providers, energy-related software developers, risk managers, energy brokerage firms, customer service and information technology providers. Affiliated and independent marketers have come together under the NEM auspices to forge consensus and to help eliminate as many issues as possible that would delay competition. NEM supports the implementation of laws, regulations, standards of conduct, rates, tariffs and operating procedures: (a) that provide all customers meaningful choice; (b) that implement open, efficient, "liquid" and price-competitive energy markets, and (c) that encourage the development of new, and innovative energy services and technologies, at the earliest possible date.

As a national trade organization, NEM brings a wide range of experiences, as well as broad perspectives to its testimony in this proceeding that should aide the United States Senate Committee on Energy and Natural Resources and enhance the quality of the record to be developed here. NEM currently participates in more than 50 restructuring proceedings around the country and at the FERC. The testimony and recommendations presented here represent major issues and barriers to price competition that are most often confronted in proceedings around the country.

II. BACKGROUND

Price competition is the goal of deregulation, whether it is for airfares, long distance telephone rates or energy prices. Meaningful choice and true price competition are always the best consumer protection laws possible. When laws and regulations set prices, restrict access to consumers, establish barriers to entry, mandate sales of assets coupled with spot purchases of volatile commodities, markets get distorted and everyone loses, consumers, taxpayers, utilities, governments and suppliers. Real competition always works. Deregulation is not a failure. California Style Deregulation, however, is a failure.

California was first and could have established a model for other states to follow. Unfortunately, a number of political compromises made supply shortages and price spikes inevitable. In the face of strong and growing demand for power, no new power plants were built. Price cuts were legislated at the same time that tens of billions of dollars in stranded costs were allowed into rates. Energy sellers and buyers were prohibited from doing business with each other and all energy purchases and sales were mandated through a state run monopoly. Simultaneously, utilities sold most of their generating assets at values higher than book value and purchased energy supplies in the spot market. All this occurred at a time when no new power plant construction made future shortages and price spikes foreseeable and ownership of existing plants excellent investments. Financially, the utilities were selling electricity short without generation to deliver as a hedge against price increases. Predictably, wholesale prices grew to meet demand yet, at the same time, retail prices were capped. This is a recipe for disaster in any market.

California is one of the world's largest economies, the epicenter of a worldwide technology revolution, and built around an electricity system that is in need of significant new investments to deliver "digital power quality." The direct and indirect impact to California, the western United States and the global economy of local decisions that stalled construction of needed supplies is potentially astronomical. Meaningful choice and true price competition can only occur when consumers are assured that new supplies will be available to meet their growing demand. This has not happened in California.

Now, California is in a cycle of stage 3 energy emergencies with rolling blackouts, major utilities are having cash flow and credit/confidence crises, taxpayers and consumers are revolting against both high prices and utility bailouts, new generation and construction is stalled, and politicians have actually threatened to expropriate private generating assets that utilities sold when values were high and shortages were foreseeable.

While California-style deregulation is unique, the impact of the California energy crisis is not contained within the borders of the state, and will be felt throughout

the region and could affect the national and global economies. The impact of California's energy and environmental choices is now being passed on to ratepayers throughout the Northwest. Ironically, in order to allay short-term blackouts, older, coal-burning facilities that could have been replaced with newer cleaner plants will be running overtime for the foreseeable future.

Importantly, every state has a legitimate interest in protecting in-state consumers from increasing energy prices. However, the current 60-year old system of federal and state laws and regulations were designed around a local franchise monopoly paradigm. To deliver the lowest possible prices to consumers, new laws and regulations are needed immediately so that competitive suppliers can super-aggregate energy demand and deliver national economies of scale to even the smallest consumers. Competitive energy suppliers cannot succeed unless they can offer consumers lower prices than the local franchise monopoly.

III. RECOMMENDATIONS

There are a number of actions that federal and state governments need to take to ensure the proper restructuring of the electric industry. Members of NEM spent hundreds of man-days forging consensus on the proper role of the federal, state and local governments in the implementation of electric restructuring. NEM members operate in virtually every market that has opened for competition, and their broad base of experience was the basis for the attached document entitled, "National Guidelines for Restructuring the Electric Generation, Transmission and Distribution Industries." Since this document was released, the California model for deregulation has produced empirical evidence as to how the failure of one state's deregulation program can have significant economic and environmental impacts on other states as well as the national and global economies.

Accordingly, NEM urges the Congress to consider a number of important actions to bring meaningful choice and true price competition to all US consumers of energy at the earliest possible date. Generally speaking these actions would: (a) encourage the development of national economies of scale through more uniform rules, operating procedures, tariff structures, scheduling coordination and technology platforms, (b) limit utility services to pure monopoly functions (transmission and distribution) and provide current monopoly cost-base prices to consumers as "shopping credits" to procure competitive services, and (c) expand existing energy and environmental tax credits to include Qualified Restructuring Investments such as advanced metering, computer system upgrades, distributed generation and provide tax and performance based regulatory incentives for infrastructure upgrades, congestion management, maintenance and streamlined interconnection procedures.

A. National Economies of Scale are Critical to Lower Energy Prices. True price competition and lower energy prices require competitive suppliers to achieve national, or at least, regional economies of scale. Competitive suppliers can only succeed in winning customers away from incumbent utilities if they can offer lower prices, better services, more novel products, services and technologies or all three.

Currently, there are 50 different states with different rules in multiple utility service territories, different data protocols and transaction sets, different operating rules, different switching, scheduling and customer protection rules, even different units of measurements. As long as market participants are forced to divert scarce resources to customize computer systems, billing, back-office, and customer care facilities, and to develop and maintain non-standardized information protocols or develop specialized knowledge of different business rules in each jurisdiction, it drives energy prices higher nationwide. Add to this the fact that one marked failure like California can have a devastating impact on consumers, taxpayers, financial markets and regional ecosystems.

Energy is the lifeblood of the world economy. It is time to coordinate and implement relative uniformity among the states, in rules, processes, procedures, scheduling delivery, and even information technologies.¹ There are a significant number of business rules,² consumer protection laws, technology platforms and comparable operating rules and scheduling processes which, if established fairly, efficiently, and uniformly across the country could bring significant cost savings and have a profound impact on the country and the reliability of energy supplies.

B. Utilities Should Exit the Merchant Function and Consumers Should Be Provided Shopping Credits Equal to Current Monopoly Prices to Shop for Competitive

¹National Energy Technology Policy (October 30, 2000). Available on the NEM website at: http://www.energy marketers.com/documents/NEM_National_Energy_Technology_Policy_final.pdf

²Uniform Business Practices for the Retail Energy Market, Sponsored by EEI, NEM, CUBR and EPSA. Accessible at www.eei.org.

Services. Utilities should be encouraged to “exit” competitive businesses and focus all ratepayer dollars on performing services that can only be performed by a natural monopoly. In the process, consumers should be given “shopping credits” on their utility bills equal to the utility’s fully embedded costs of providing competitive services that have been historically bundled with traditional monopoly services. Currently, captive utility customers pay monopoly prices for a bundle of services that include many products and services that can and should be provided by competitive suppliers at competitive prices. Failure to give consumers credits that reflect the full costs historically associated with these services will send erroneous pricing signals to consumers and cause consumers to pay twice for the same services. Shopping credits which “back out” the proper amounts from utility rates will permit consumers to shop for competitive services, encourage price competition among suppliers, improve efficiency and stimulate innovation. If consumers are given the full monopoly prices they are currently paying for competitive services to shop for alternative energy services, price competition and lower energy costs will be difficult to achieve.

C. Federal and State Tax and Regulatory Incentives are Needed Immediately for Investments in New Energy Supplies, Conservation, Technology, and Infrastructure Immediately. The United States has entered the digital age with an energy infrastructure constructed for the industrial revolution. The United States is operating on a level of reliability that cannot support digital power quality needs. A flicker of the lights in Silicon Valley has global impacts.

One of the lowest cost, highest yield policy solutions is to create targeted tax incentives to encourage all forms of new energy supply, technology and conservation investments. This includes investments in new pipes and wires to reduce congestion, advanced metering systems, new computer systems, new energy supplies as well as distributed generation. Both the state and federal governments have powerful and effective tools to encourage new investments in energy supply and conservation. The federal tax code already contains a myriad of targeted energy, environmental and efficiency tax credits that should be updated to increase the supply of electricity and natural gas and reduce consumption. Either or both the existing energy tax credits contained in Section 48 of the Internal Revenue Code (IRC), or the existing credit for research contained in Section 41 of the IRC, could be expanded to include “qualified energy restructuring investments.”

NEM recommends that the definition of “qualified restructuring investments” include, at a minimum, expenses incurred to modernize and upgrade computer and information systems, metering systems, billing systems and customer care facilities to facilitate competitive restructuring. The credit should be available to both regulated and unregulated entities. To ensure that restructuring tax credits and regulatory incentives are targeted and effective, investments that are not “qualified” should also not qualify for stranded cost recovery.

CONCLUSION

The market structure and added supplies necessary for deregulation to succeed in California were not in place, and the failure of California style deregulation was therefore predictable. In order to prevent similar crises, permit meaningful choice and true price competition and ensure the reliability of a digital quality U.S. energy infrastructure, (a) far greater uniformity is necessary among the states to achieve national economies of scale, (b) utilities must be incented to exit the merchant function while consumers are given adequate shopping credits to shop for competitive supplies, and (c) existing tax and regulatory incentives must be expanded to encourage new investments in energy supply, technology and conservation.

If both federal and state laws are written in a manner that ensures meaningful price competition for the smallest retail consumer, the country will benefit from lower energy costs, greater efficiency and improved competitiveness internationally. Higher energy costs operate like a regressive tax on low-income individuals and small businesses. Conversely, laws and policies that help to lower energy prices have a disproportionately greater benefit for lower income individuals and those on a fixed monthly income. NEM experts are available to work with Committee staff to draft appropriate language to implement these recommendations.

JOINT STATEMENT OF HON. GRAY DAVIS, GOVERNOR, STATE OF CALIFORNIA; HON. JOHN KITZHABER, GOVERNOR, STATE OF OREGON; AND HON. GARY LOCKE, GOVERNOR, STATE OF WASHINGTON

The governors of California, Oregon, and Washington met in Sacramento on Friday, January 12, 2001, to discuss the growing West Coast energy problems. Governor Gray Davis of California, Governor John Kitzhaber of Oregon, and Governor

Gary Locke of Washington set up the meeting in order to exchange information and plan joint action of the Pacific Coast states to deal with energy shortages and soaring energy prices, particularly with respect to electricity.

The Governors agreed on the following statement.

The Pacific Northwest states and California have for the past 30 years enjoyed a mutually beneficial exchange of electrical energy between the two regions. When electrical demand is high in California during summer air-conditioning season, the Pacific Northwest has sent power to California, primarily from the surplus output of the hydroelectric dams. In the winter, when Pacific Northwest space heating loads are high, California historically has made power available to Oregon and Washington. This arrangement has recently been threatened by the failure of California wholesale power sellers to make enough power available to serve California loads, let alone to provide power for export to the Pacific Northwest.

The Governors agree to work together to try to restore conditions in the wholesale market that would allow the mutually beneficial exchange of electricity between California and the Pacific Northwest to continue into the future.

For the immediate future, the Governors agree to work to ensure that power flows from one region to the other during periods of emergency, so that no state suffers blackouts when another state has more than enough electricity to meet its own needs.

The Governors agree to support the financial viability of the utilities.

The growing problems in the wholesale electricity market that have brought record electricity prices threaten all the buyers of electricity on the integrated power grid connecting the western states. The problems in the marketplace for electricity are not just California problems. They are problems that affect all western states.

The Governors pledge to work to involve all the western states in the solutions to the current energy problems.

Governor Kitzhaber and Governor Locke acknowledge and commend the efforts made to date by Governor Davis and the citizens of California to deal with the current energy challenge. They agreed that California's efforts to reduce electricity demand, to bring on new supplies as quickly as possible, and to regain control over the electricity marketplace are important steps towards resolving the current energy emergency.

The unprecedented shortages and extraordinary wholesale prices of electricity in California have resulted in an unexpected and unprecedented need for imports of electricity into California. Much of the needed supply has come from the Pacific Northwest, both during the summer emergency and during the current winter power Governor Davis expresses the gratitude of the citizens of California for the efforts made by the citizens and businesses of the Pacific Northwest to supply needed power to California during the energy emergencies of the past year.

Apart from the current extraordinary shortages and increases in energy costs caused by non-competitive practices in the marketplace, new supplies of energy must be put in place, and they will cost more than in the past. Until these supplies can be brought on line, it is necessary for the citizens of the West Coast states to reduce their demand for energy, particularly for electricity.

Each Governor acknowledges and commends the efforts being undertaken in the other states to reduce demand for electricity during the current energy emergency. The Governors pledge to:

- Continue to urge citizens in their respective states to reduce demand with a target of seven to ten per cent reduction from pre-emergency levels;
- Work towards reducing electricity demand at state-owned facilities by ten cent or more;
- Expand programs to distribute or provide incentives for low-cost energy efficient products and services, such as lighting, air-conditioning, and appliances;
- Undertake campaigns to provide information to citizens and businesses on low cost ways to save energy;
- Investigate joint purchasing of energy efficient products for state and local governments and school and transit districts.

While the West Coast states are in need of new electricity supplies, investments in energy efficiency, renewable resources, load management, and distributed generation can often provide cost-effective and more quickly implemented alternatives to conventional supplies. An added advantage of many of these alternatives is fewer emissions and other factors benefiting the environment.

The Governors will work to ensure that alternatives to conventional energy supplies are implemented to bring about a more secure energy future. The three states further agree to sponsor a West Coast conference this year to investigate new technologies and to promote the deployment of energy efficiency, renewable resources,

load management, and distributed generation. The West Coast states will institute regular exchanges of information, expertise and technology in these areas.

The current crisis in electricity cannot be solved by action of the West Coast states alone. A major part of the problem has been the unsupervised wholesale market, which has been subject to manipulation by non-competitive forces, resulting in record rates of plant outage and price increases frequently of over 1,000 percent. The states have limited legal authority to regulate activity and prices in the wholesale market for electricity, that role having been given primarily to the Federal Energy Regulatory Commission by the Federal Power Act.

The Governors, in the strongest possible terms, call upon the federal government, in particular the Federal Energy Regulatory Commission, to bring stability to the western wholesale power market through effective price controls. Such action is the cornerstone of providing financial stability.

The Governors agree that it is unfair to pass on to consumers the entire burden of the unprecedented increases in the wholesale cost of electricity resulting from non-competitive practices in the marketplace. The federal government must take up its responsibility to prevent the chaos that threatens to engulf the entire western electricity system by using the tools it has at its disposal. If FERC fails to be accountable for the crisis in the wholesale markets, the Governors call on the Congress and the Clinton and Bush administrations to take such immediate action as is necessary to repair the wholesale market for electricity in the West.

STATEMENT OF ROBERT M. HERTZBERG, SPEAKER, CALIFORNIA STATE ASSEMBLY

Today I urge congress to join with us in crafting a solution to the enormous energy problems that confront the people of California and put at risk not only the reliability of our energy, but also the great engine of our state's economy. As many have said in recent days, including federal reserve chairman Alan Greenspan, a failure to adequately ensure reliability of supply at affordable rates for Californians may have a large and negative ripple effect on the economy of the entire nation.

While California's deregulation plan clearly has not worked out as its creators intended, the current problem is not entirely of California's making. In fact, about 85 percent of the growth in electricity demand in the west in the last five years has occurred outside California.

However, California stands ready to make the hard choices we must make to end this crisis. Over the last few days, we have crafted a set of principles substantially agreed to by the governor and the majority and minority leadership of both houses of the legislature which we believe will go a long way towards helping resolve the crisis. These principles include:

- Aggressively promoting energy efficiency.
- Increasing the supply of electrical generation by stream lining the permitting and construction of new plants.
- Authorizing the state to enter into long-term contracts with power providers and to sell power directly to ratepayers.
- Providing ratepayers with an asset of value, such as stock warrants, as equity participation in the financial recovery of the utilities. This equity participation will be used either to help retire bonds or otherwise provide tangible benefits to consumers.
- Continuing negotiations with investor-owned utilities and others on a plan to deal with their unrecovered costs while also protecting ratepayers.
- Reducing the price paid to qualified facilities by negotiating reductions in their contract rates.
- Resolving outstanding regulatory and legal actions initiated by the utilities to recover undercollections.

In addition, we have already enacted two bipartisan urgency measures which have been signed by the governor and which are in effect now to begin the restructuring necessary to resolve California's energy problems. AB 5X (Keeley) removed the "stakeholder" governing board of the independent system operator and substituted a board of governor's appointees to eliminate the inherent conflict of interest in utilizing stakeholder decision-makers. AB 6X (Dutra) makes utility-owned generation facilities subject to PUC regulation and prohibits further disposal of utility-owned assets prior to 2006.

Our efforts are on-going, multi-faceted and around the clock. Our leadership is currently close to a final deal to reduce the price of qualified facility contracts by roughly 50%. We also are near completion of discussions with the governor and the utilities to ensure that California can purchase the electricity that the utilities are

currently unable to purchase because of their lack of credit-worthiness. AB 1X (Keeley), the measure which would make this change, has already passed the assembly and may pass the Senate as early as today. AB 18X (Hertzberg) is also subject to round-the-clock negotiations. The team of experts we have assembled from throughout the nation is working to craft a long-term solution that resolves the near-bankruptcy status of our utilities in a way that ensures strong protections for our citizens and financial safeguards for the state.

California has three new power plants coming on line this year at-one. Nine others have been approved and five are already under construction. Every one of us is hard at work to get this job done: secure energy supplies and fair energy prices.

While we are committed to taking these and other steps to resolve the crisis, there are things we cannot do without federal assistance.

We look forward to working with you and other members of Congress as we work on siting new power plants, providing diverse energy sources, developing substantial conservation plans, and the interstate supply and demand issues that the entire western region is facing this summer.

Thank you in advance for your interest and assistance. My colleagues and I stand ready to provide you with further information in a cooperative effort that will benefit all our constituents.

STATEMENT OF DANIEL V. FLANAGAN, JR., SCHOOL OF POLICY, PLANNING AND DEVELOPMENT, THE UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES, CA

MR. CHAIRMAN: As a native Californian, but long time Washington DC executive, it was my privilege to be present on October 24, 1992 when President George Bush signed the 1992 Energy Policy Act. I was invited by Admiral Jim Watkins, then Secretary of Energy (whose father had served as President of Southern California Edison), due to my personal role in leading the private sector effort culminating in the Act's Title VII dealing with "electricity deregulation".

I am delighted to be here today to review the importance of the 1992 Act's electricity title, crafted by this Committee, so that there is a clear understanding by Californians of the benefits it has achieved throughout the United States and in other countries. Hopefully, this presentation can also clarify the mistakes made by California in the 1996 "restructuring" of its electric utility industry and remedial steps needed.

I am very troubled that California not only made some serious mistakes in implementing this federal opportunity; but that the coverage has been so confusing to the state's population. With the sixth largest GDP in the world, and soon to surpass Great Britain and France, it is clear that the Golden State must increase its understanding of public policy and economics.

For the University, and its mission, we cannot afford to have California tarnish twenty-five years of economic deregulation in this country, which has been a key ingredient in the recipe for this brilliant economy. How can Mexico restructure its national utility (CFE) when opponents will cite what happened in California?

PERSPECTIVE

In 1996, when California's legislature "restructured" its electric utility industry, at the request of the state Public Utilities Commission, it created two new enterprises: a "power exchange" and an "independent system operator" (ISO). The State PUC had recommended both, and while a power pool infrastructure was needed, neither was allowed to enter into long-term electricity supply contracts. The state's three investor owned electric utilities, subject to PUC regulation, were required—during the restructuring period—to purchase all electricity supply from the power exchange. Effectively, California locked itself out of the dynamic, national wholesale electricity market where low electricity prices were readily available.

Governor Davis is now engaged in an effort to remedy that situation by negotiating long-term, State of California electricity supply contracts at prices higher than available last summer, notwithstanding even lower market prices prevalent during the '90s. For this to happen, it will be necessary for the state legislature to amend the 1996 Act, following on the FERC's Dec. 15th action amending its earlier Power Exchange/ISO ratification sought by California in 1994. The prohibition on long term contracting for electricity supply was the "killer virus" that has stunned California's economy. No other state has adopted these restraints; and, in fact, they have enjoyed relatively stable low cost electricity supply since 1992. Electricity costs rose nationwide by only 2.9% (commerce) and 2.6% (industry) last year according to the US Bureau of Labor Statistics.

BACKGROUND

In 1995, the internet's founder, Bob Kahn of DARPA fame, commissioned four studies dealing with the history of the American railroad, electric utility, telephone and banking industries through his US government funded Corporation for National Research Initiatives. He commissioned the work in order to appreciate the regulatory history of those industries and to prepare accordingly for the regulatory policies that would evolve relative to the internet industry. With my professional Washington career devoted to the deregulation of these same industries, I am concerned that California "gets it right" on these national public policy initiatives.

In developing the public policy "recipe" for what became the 1992 Energy Policy Act's Title VII dealing with electricity deregulation, prominent economists including MIT's Paul Jaskow, Dick Schmalensee and Harvard's Charles Chicchetti began work with our coalition in 1988. For over two years, we met on a regular basis to analyze the traditional components of such a venture: market entry and competition, risk transfer, new technology, entrepreneurial opportunities and consumer benefits. These were the very same ingredients from my earlier work in the deregulation of railroads and the trucking industry as well as the five-year effort-representing SPRINT in the breakup of AT&T in 1982. Our findings were provided to the US Department of Energy as part of the National Energy Strategy process submitted by the White House to Congress in 1990.

THE 1992 ENERGY POLICY ACT

The hearing rooms in both the House and the Senate of the US Congress were "standing room only", as you will recall, for over four years beginning in 1988. The FERC, that same year, had allowed competition to determine the avoided cost in co-generation contracts stemming from the 1978 Public Utility Regulatory Practices Act (PURPA) adopted during that national energy crisis.

Historically, this vertically integrated industry—comprised of generation, transmission and distribution—had inefficiently "built" new generation plants in the United States resulting in reserve margins well over 30%. Archaic transmission policies and construction outsourcing overruns had placed a huge cost burden on American electricity consumers.

By passing Title VII—Electricity, of the 1992 Energy Policy Act, Congress enacted into law two critical policies:

A. Henceforth, U.S. investor owned utility generation (and transmission) whether in this country or abroad could be exempt from the 1935 Public Utility Holding Company Act provisions, which required that these assets be regulated. Accordingly, the independent power industry was launched within the definition "exempt wholesale generator".

B. Transmission access was to be assured by the FERC for this independent power generation into the grid.

In the almost ten years since enactment, this federal statute has launched a new global independent power industry dominated by the United States. New technology, environmental benefit, risk/reward, consumer benefits as well as protection have all occurred. Project finance, non-existent in the USA before 1992, is now the traditional infrastructure/IPP financing practice. As Chairman of the 1993 Infrastructure Investment Commission, my staff could not find an American firm—during our congressional hearings that prior year—that could explain project finance to us. We relied on the Europeans to do so.

Today, we now have sophisticated credit enhancement and project financing strategies, e.g. "customer infrastructure". If you have customers connected to the less expensive transmission/distribution facilities, then you can readily finance the more expensive, up stream power generation or wastewater treatment facilities. In fact, the World Bank—in the midst of this project finance revolution spawn by the 1992 statute—has eliminated two thousand engineering jobs replacing them with project finance analysts. World Bank funding is now based on projects and not on governments.

The United States is enjoying a development boom of new electric-generating capacity. More than 250,000 MW are currently in development in the United States, with more than 180,000 MW scheduled to enter commercial service by the end of 2003. In 2001 alone, at least 65,000 MW are scheduled to enter service. About 97% of this proposed generation is to be fired by natural gas. Most of this new generation is being done by independent power producers based on market supply and demand conditions with those investors assuming all development/construction risk which, prior to 1992, had been born unknowingly by electricity consumers in what was known conveniently as "rate base".

CALIFORNIA

In California, no new energy plants have been built in a decade in contrast to other states; albeit five are now approved with two possibly in service this summer. In September of 1999, I attended a US-Mexico Energy Conference in San Diego. Speakers included then US Secretary of Energy Bill Richardson and Mexican Energy Commission Chairman Hector Olea; who I knew well from NAFTA days, and his interest in the 1992 Energy Policy Act's electricity provisions.

During the conference, I asked California Energy Commission Chairman Bill Keese what he was doing about reserve margins in California. It was common knowledge that they had dropped precipitously. In fact, the national reserve margins of 30 plus percent in 1992 had been replaced by less than five percent in 1999. This short fall had been supplanted by a new, dynamic electricity trading market place bringing flexibility incorporating regional/weather patterns and energy supply. Again, the 1996 "killer virus" in California, forbidding long term-trading, had prevented California from being a part of this new marketplace.

There is no doubt that weather patterns in the Pacific Northwest and natural gas prices have been a factor in this recent crisis. But in this same market, the Los Angeles Department of Water and Power manages to be immensely profitable, and the Los Angeles Times reporting far more objective. Why? Because LADWP is exempt from the regulatory requirements of the California Public Utilities Commission and was never required to participate in the 1996 California Electricity Deregulation Initiative.

California now needs to address a number of solutions both in the near and long term as follows:

- Long term electricity supply contracts
- Additional generation, apparently now being addressed
- Total restructuring of the Power Exchange and Independent System Operator
 - Most importantly, long-term contracts should be allowed for both the utilities and/or the power exchange/ISO. (The State of California is currently negotiating long-term contracts due to the near bankruptcy conditions and non-credit worthiness of its three utilities.)
 - Participate in the FERC's October 2000 acceptance of applications for "transcos" to assume the dominant power transmission role in regions throughout the country on a for profit basis.
- Regional power coordination. The FERC has consistently implored the western states to work together.
- Conservation/pricing

CONCLUSION

In a recent Southern California poll, over 70% of respondents indicated they faulted a combination of the California Public Utility Commission, the Legislature and the utilities for their current electricity dilemma. Surprisingly, the press for over six months has "put the blame on Washington"; and supported calls for public ownership—tantamount to nationalization in foreign countries—putting even more risk on the consumer.

Several weeks ago Bill Hewlett, the co-founder with David Packard of a great company and of Silicon Valley itself, passed away in Palo Alto, California. At the same time, Intel was announcing it would no longer build new facilities in California if this electricity crisis were to continue. Several years ago, Mr. Hewlett made a substantial contribution to establish the California Public Policy Institute. He was a visionary, anticipating the need for more sophisticated understanding of this nation/state's economy in the challenges that lie ahead.

At the 1992 Energy Policy Act signing ceremony, with President Bush and Secretary Watkins, I felt that we had completed the necessary steps to revitalize our nation's electric utility industry. Most experts believe that such success has occurred with huge efficiencies gained. My faith in the five-deregulation initiatives that I have personally championed remains unshaken. All of those industries are prospering and are providing greater services and benefits to its customers.

In 1997, every member of the California Congressional Delegation signed a letter supporting the 1996 California electricity initiative and urging Congress to grandfather its provisions in any forthcoming federal legislation. How times change! This hearing is vitally important in determining what, from California's unfortunate and unnecessary 1996 experiment, can be learned and incorporated in future Federal legislation.

Mr. Chairman, I would be pleased to take your questions.

STATEMENT OF TERRY SMITH, CHAIRMAN, CALIFORNIA INDEPENDENT
PETROLEUM ASSOCIATION

Mr. Chairman, distinguished members of the committee, thank you for allowing me the opportunity to participate in this proceeding to share our thoughts on this issue of critical importance to California's economic health and well-being.

I am submitting testimony on behalf of the California Independent Petroleum Association—a non-profit trade association representing over 450 independent producers of oil and natural gas, service companies, and royalty owners. California produces about 40% of the oil it needs, the remainder comes from Alaska and foreign producers. California is the fourth largest producing state behind only Alaska, Texas and Louisiana and has the largest untapped reserve base for oil production in the lower 48 states. We believe that given the right conditions, we could produce more.

California's petroleum industry finds itself in the same circumstance as many of the state's other large power consumers—stung by high electricity costs. Continued high electricity costs could potentially make a large portion of the state's oil production uneconomic, however, given the proper incentives, CIPA and our member companies can be part of the solution to the energy supply problem facing California energy consumers.

There are two basic ways to help ease the energy supply crisis faced by California:

The first is to increase energy production. Policy makers must recognize the geographical advantage of in-state oil, natural gas and energy production and develop incentives to identify additional energy supplies that already exist in California. Laws and regulations that target and stimulate these critical resources and move energy supplies to the consumer quickly must be adopted. The siting of new in-state power plants of all sizes should be encouraged and expedited.

The second way to ease the crisis is to reduce energy consumption. Innovative financial, tax and regulatory solutions to reduce energy consumption that benefit both energy users and consumers should be made available. Examples of additional incentives to encourage business owners to shift electric load are interruptible tariffs, demand side management programs and demand side bidding. The ability of oil and natural gas producers to utilize distributed generation, self-generation and co-generation technologies should also be facilitated.

CALIFORNIA OIL AND NATURAL GAS PRODUCERS PERSPECTIVE ON THE
ENERGY SUPPLY CRISIS

I've chosen to contribute to this dialogue because today's topic is of critical importance to the members of my association. For most independent producers in California, electricity accounts for up to 60% of the cost of doing business. California oil is costly to produce because it requires steam injection driven by natural gas to get it out of the ground. California producers also use a lot of electricity to pump the oil out of the ground. Environmental rules prevent them from using crude oil to make electricity so they use natural gas. High natural gas prices and unreliable supplies of electricity have resulted in making California crude costly to produce and are threatening to severely curtail the amount of oil we produce on an annual basis.

CIPA has placed an extraordinary priority on assuring that it has access to a reliable and economic supply of electricity and on ensuring the state's private utilities are kept viable and solvent. Independent oil and natural gas producers are some of the largest electricity consumers in the state, and are economically vulnerable to unreliable, high-priced electricity supplies.

Disruption in electricity supplies can result in reduced production of indigenous oil, natural gas and energy supplies produced by CIPA members. Almost all of the oil and natural gas produced in California is consumed in California.

What happened to California's electrical system that has resulted in the problems we see today? As someone representing large consumers of electricity, I would offer the following insights.

The problem, in essence, comes down to exceptionally stringent environmental siting guidelines and a low return on investment that kept new power plants from being built in California during the past twelve years. Over the past ten years, few people anticipated the strong demand for electricity brought about by a surging economy and technology infrastructure. California policymakers thought that other neighboring western states would sell us their excess power if we couldn't keep up with our own demand. They didn't anticipate the growth of our neighboring states' economies and the fact that they might want to keep that power for their own use.

In 1996, when the California Legislature passed legislation deregulating California's electrical market, it did so only partially. Not all of the market was deregulated, just the generation portion. Investor owned utilities like PG&E were required

to sell their generation so they wouldn't be seen as competing with independent power producers or holding back the new electricity market. In addition, the law imposed a mandatory rate freeze that has been in effect during the past couple of years. The rate freeze was intended to allow the utilities to recover, from businesses and consumers like you and me, all the past costs of purchasing infrastructure and facilities. This also shielded ratepayers from the true cost of providing electricity.

This arrangement worked great as long as wholesale power costs were lower than the rates utilities were allowed to collect from customers. But, when wholesale power costs rose, the utilities tried to get the rate freeze removed by the California Public Utilities Commission and be allowed to pass along the true cost of wholesale power to their customers. To date, the Governor, Legislature, and the CPUC have all said 'no' thereby forcing the utilities to continue assuming the price differential of how much they purchase power for and how much they can recover.

To compound the problem, the new regulatory structure set up by AB 1890—the legislation that created the deregulated market—put a price cap on what independent power producers could charge for their power and restricted the ability of these same producers and the utilities to enter into long term contracts.

Finally, all of these factors converged at the same time natural gas prices began reaching historically high levels. Higher than expected demand throughout the west, reduced supplies, and disruptions on major pipelines serving California all served to drive prices up, thereby further exacerbating the generators' cost of producing electricity.

All of these trends have manifested themselves into the current crisis facing the committee today.

Having identified the problem as we see it, where do we go from here? California's independent producers believe we can be part of the solution if allowed the proper opportunities. As companies based and operating in California, we believe we are uniquely situated to mitigate the strains that are being placed on the supply side of the energy equation. Given the proper combination of regulatory relief and incentives, we believe we can increase our levels of both oil and natural gas production beyond their current levels.

ADDING IN STATE NATURAL GAS SUPPLY

According to the California Division of Oil and Gas, California continues to have some of the largest proved reserves of oil and natural gas anywhere in the United States. Proved reserves of over 21 trillion cubic feet (tcf) have been identified along the West Coast of the United States while over 3 tcf of proved onshore reserves have been identified to date. With the advent of new, increasingly accurate technology, new reserves of oil and gas are being found throughout the state in areas previously thought to be barren.

Despite the presence of such substantial reserves, and the state's rapidly growing demand for increased supplies of natural gas, in-state production in California today accounts for only 10-15% of the state's total annual natural gas needs. In the past, California production has accounted for as much as 25% of the state's total needs.

Although much of this trend can be contributed to some of the same factors I referenced earlier—stringent environmental laws, high drilling costs, historically low gas prices throughout the 1990's and labor shortages—many experts believe a large part of decline can be tied directly to the policies of the state's major gas utilities.

Existing law provides the utilities with almost exclusive authority in setting the terms and conditions under which pipeline connections for new natural gas wells are accommodated. Historically, many producers have felt that the utilities have used this authority to stifle California production and limit competition in favor of taking larger supplies of gas from out of state sources such as Canada, the Rocky Mountains, and the Southwest.

For the past ten years, independent producers throughout the state report experiencing delays of six months to a year before receiving utility approval to install a new pipeline interconnect for newly completed wells. Overly burdensome and expensive terms of conditions imposed by the utilities as a condition of new interconnections are now thought to be the rule rather than the exception. In many cases, producers have elected to simply abandon new exploratory projects rather than try to meet the demands being imposed by the utilities.

One of the largest impediments to increasing gas production in California are the utility's own management policies relative to its existing pipeline infrastructure. Representatives from PG&E recently announced that the company would no longer be adding any new metering systems along its pipeline system in Northern California. If enacted, the new PG&E policy would require all new wells to be connected through an existing metering site along the pipeline—requiring in some cases miles

and miles of new pipelines to be constructed in order to connect a remote exploratory well. Given such terms and conditions, most exploratory projects would become automatically unfeasible. In an related move, PG&E has also recently embarked on an ambitious plan of “retiring” large sections of its pipeline gathering and delivery systems—further limiting the potential points of interconnection for new gas wells. Many of the sections being targeted by the utility continue to remain in operational condition. The hardest by these new policies would be the Northern Sacramento Basin—one of the most proliferate dry gas fields in the United States and the source of over one-third of all the natural gas produced in California.

Significant evidence suggests that much of California’s long-term gas needs could be addressed by expanding production, and reforming the regulatory relationship between the independent producers and the utilities. Suggested reforms that could help accomplish this goal include:

- Establishing mandatory timeframes under which a utility must respond to a producer’s request for a pipeline interconnection.
- Encouraging new exploration activity by requiring the utility to install new metering sites, rather than requiring producers to construct miles of new pipeline for every exploratory well.
- Allowing producers to expedite the installation of new interconnects by authorizing them shoulder costs such as pipeline construction and labor costs if the utility’s workforce is already overburdened.
- Facilitating the development of new pipeline gathering infrastructure that enables more gas to get to market.
- Requiring the utility’s to sell off its existing gathering systems to interested producers and co-ops, and provide the producers the authority to maintain and service the gathering systems.

By making some of these minor changes, and facilitating the ability of California producers to get their gas to market, we believe we can begin to help mitigate at least one element of the problems driving our state’s current crisis.

IN-STATE GENERATION OPTIONS

On a related note, CIPA believes that Federal policymakers must act to eliminate federal policies that discourage co-generation, self-generation and distributed generation. Many California oil and gas producers are uniquely situated to generate their own electricity. Some have excess supply which could be sold to other consumers if reasonable utility connection, siting and standby policies were in place. We encourage you to examine the ways in which FERC, the DOE and other agencies of the federal government could encourage and incentivize utilities, and the regulatory community in California, to act to approve new facilities.

In closing, independent oil and gas producers are price takers and have no ability to set the price of crude at the wellhead where we produce it. Independent oil and natural gas producers are like energy farmers. We take our commodity out of the ground and sell it for the market price set by OPEC and other producing countries, usually to an independent refiner or integrated oil company who then refines it into products like gasoline. As such, our members are extremely vulnerable and can be dramatically impacted by any combination of events that force their costs to rise suddenly. We appreciate the committee’s attention to this extremely serious matter and stand ready to work with you in finding the proper solutions.

MUNICIPAL UTILITY NATURAL GAS SUPPLY ACT OF 2001

Sec. 1. SHORT TITLE

This Act may be cited as the “Municipal Utility Natural Gas Supply Act Of 2001”.

Sec. 2. ARBITRAGE RULES NOT TO APPLY TO PREPAYMENTS FOR NATURAL GAS AND OTHER COMMODITIES.

(A) IN GENERAL—Subsection (b) of section 148 of the Internal Revenue Code of 1986 (defining higher yielding investments) is amended by adding at the end the following new paragraph:

(4) EXCEPTION FOR CERTAIN PREPAYMENTS TO ENSURE COMMODITY SUPPLY—The term “investment property” shall not include a prepayment entered into for the purpose of obtaining a supply of a commodity reasonably expected to be used in a business of one or more utilities each of which is owned and operated by a state or local government, any political subdivision or instrumentality thereof, or any governmental unit acting for or on behalf of such a utility.

Sec. 3. PRIVATE LOAN FINANCING TEST NOT TO APPLY TO PREPAYMENTS
FOR NATURAL GAS AND OTHER COMMODITIES.

(A) IN GENERAL—Subsection (c)(2) of section 141 of the Internal Revenue Code of 1986 (providing exceptions to the private loan financing test) is amended by striking the word “or” at the end of section 141(c)(2)(A), by striking the period at the end of section 141(c)(2)(B) and adding a comma and the word “or” and by adding the following new paragraph:

(A) arises from a transaction described in section 148(b)(4).

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