

STATEMENT OF PROFESSOR WILLIAM W. HOGAN<sup>1</sup>  
BEFORE THE COMMITTEE ON GOVERNMENTAL AFFAIRS  
UNITED STATES SENATE

JUNE 13, 2001

Thank you for the opportunity to participate in these hearings today. The energy market problems in California are serious. As Governor Gray Davis said, the recent good fortune, with several factors combining to produce lower prices in California, is probably only a "temporary reprieve." It is likely that the problems of high prices and rolling blackouts in the west will be with us again this summer. It is appropriate that this committee is addressing the topic, in order to understand the origins of the difficulties and to identify actions that might improve the situation.

The problems in electricity and natural gas are related, but I will focus my remarks on the electricity market. The California electricity crisis is the result of avoidable mistakes that produced a bad market design, combined with possibly unavoidable bad luck, that precipitated the market meltdown that first caught public attention in the summer of 2000. There is no doubt that the California electricity market is sick. However, it is important to recognize that the problems were apparent long before prices rose in June 2000. Well before that, almost from the beginning of operations in the new market in 1998, flaws in the market design were evident. These flaws extend beyond the now familiar restrictions on contract hedging and the disconnect between a policy of fixed retail rates and the realities of fluctuating wholesale prices, a disconnect that, when shortages and resulting high prices appeared, produced the financial crises that has left two utilities near bankruptcy.

---

<sup>1</sup> Lucius N. Littauer Professor of Public Policy and Administration, John F. Kennedy School of Government, Harvard University, a Director of the LECG, LLC., Research Director of the Harvard Electricity Policy Group and participant in the Harvard-Japan Project on Energy and the Environment. I am or have been a consultant on electric market reform and transmission issues for American National Power, Brazil Power Exchange Administrator (ASMAE), Comision Reguladora de Energia (CRE, Mexico), British National Grid Company, Calpine Corporation, Commonwealth Edison Company, Detroit Edison Company, Duquesne Light Company, Electricity Corporation of New Zealand, Entergy, GPU Inc. (and the Supporting Companies of PJM), GPU PowerNet Pty Ltd., Mirant Corp., National Independent Energy Producers, New England Independent System Operator, New England Power Company, New York Independent System Operator, New York Power Pool, New York Utilities Collaborative, Niagara Mohawk Corporation, PJM Office of Interconnection, San Diego Gas & Electric Corporation, Sempra Energy, Southern Company, Southwest Power Pool (SPP), TransÉnergie, Transpower of New Zealand, Westbrook Power, Williams Energy Group, and Wisconsin Electric Power Company. I am speaking on my own behalf, and the views presented here are not necessarily attributable to any of those mentioned. (Related papers can be found on the web at <http://www.ksg.harvard.edu/whogan>).

From the beginning, the California Independent System Operator (CAISO) was saddled with a set of market rules that required it to operate inefficiently and prevented it from using efficient pricing to support its reliability mandate. Forced to operate a market inefficiently and without effective price signals, the CAISO was left with the unenviable responsibility of trying to make the flawed structure work within these design constraints. When the inevitable problems from this flawed structure appeared, the CAISO began proposing a series of band-aid remedies that proved inadequate, even counter-productive. Eventually, at the end of 1999, the Federal Energy Regulatory Commission (FERC) halted these efforts and identified key elements of the market as "fundamentally flawed." This finding launched a process in California to completely re-examine the comprehensive market design from first principles. Unfortunately, that review was overtaken by events last summer. Since then it has been difficult to focus on the fundamental disease, given the prominence of the symptoms of high prices and rolling blackouts.

The question before this committee is what to do under the present circumstances. We agree that the patient is sick, but the appropriate remedy is less clear. Not all diagnoses lead to the same recommended policies. Some diagnoses are obvious. For example, it is clear that the electricity market fundamentally collapsed earlier this year, a disaster which included the bankruptcy of at least one large utility. Major market participants in California stopped paying their bills, and retail prices were held dramatically below the prices that were observed in the wholesale market. This was unsustainable. And the diagnosis identifies the most urgent steps for Californians in helping the patient recover health: pay your bills in order to re-establish the credibility of transactions. No system can work without credit-worthy buyers. Further, to provide incentives for conservation, retail prices for incremental electricity should be raised to market levels, at least for commercial and industrial customers. Changing the rules and the metering to support demand responses would help on many fronts.

Other diagnoses are more controversial. For example, there is a debate about how much of the electricity price increase we have seen has been caused by a shortage of supply as opposed to how much has been caused by strategic withholding of electricity through the exercise of market power. The debate extends to alternatives for immediate relief, including

uniform price caps,  
traditional cost of service regulation, and  
bid caps.

Uniform price caps would be counterproductive for all the usual reasons. As for traditional cost-of-service regulation being reimposed on the system, this might lower the average price paid by customers, but it is far from clear how this kind of administrative process could either facilitate the market or be implemented in such a way that would not exacerbate the immediate problems in the west.

To the extent that the problem of high prices results from a withholding of supply in order to raise prices, action may be needed, but the solution is not through a uniform price cap or cost-of-service regulation. A better approach would be to adopt bid caps, the procedure FERC has long supported for use elsewhere, such as in the Pennsylvania-New Jersey-Maryland (PJM) Interconnection or in New York. The bid cap requires generators to bid, subject to a cap on their bids that is related to their costs. Unlike with a price cap, the generators would still be paid the market clearing price.

The requirement to supply under the bid cap works in support of a competitive market and would counteract the effect of market power. On the other hand, to the extent that the problem is scarcity, bid caps won't do much to reduce prices. But if scarcity is the problem, then administrative action to reduce prices would make the market conditions worse, not better.

If the problem is scarcity, there is not much that can be done at this stage to improve the situation beyond measures to expedite new supplies and improve the ability of demand to respond to high prices. In short, I see no easy prescription for California for dealing with the symptoms of high prices and rolling blackouts. The best of a bad bargain would be to implement a bid cap regime targeted on any market power. This is very much in the nature of the rule adopted by the FERC in its Order of April 26, 2001. If there has been an exercise of market power, the FERC actions will go a long way to correcting the immediate problems. The Order could be improved, but it goes in the right direction.

However, the current FERC Order does not go far enough. My principal concern with these various palliatives is that we are engaged in a debate about whether to prescribe Advil or aspirin for a patient that is seriously ill. From the perspective of government policy, the long-term problem and the real disease are to be found in the many flawed features of the California market design. I have written on this subject elsewhere and provided for the record three papers which address the issue of electricity market design; however, these longer arguments reduce to a simple prescription. The

best market design that we know of is the one that has been working so well in the east, such as in the PJM system, in New York, and is being adopted in New England. The California ISO should be redesigned from first principles to abandon the market design framework that has failed and to adopt something that has a better chance of working. These principles would include:

1. The ISO must operate, and provide open access to, short-run markets to maintain short-run reliability and to provide a foundation for a workable market.
2. An ISO should be allowed to operate integrated short-run forward markets for energy and transmission.
3. An ISO should use locational marginal pricing to price and settle all purchases and sales of energy in its forward and real-time markets and to define comparable congestion (transmission usage) charges for bilateral transactions between locations.
4. An ISO should offer tradable point-to-point financial transmission rights that allow market participants to hedge the locational differences in energy prices.
5. An ISO should simultaneously optimize its ancillary service markets and energy markets.
6. The ISO should collaborate in rapidly expanding the capability to include demand side response for energy and ancillary services.

I would be happy to discuss these principles further. It is my concern that we ignore the fundamental problems of the underlying disease as we focus solely on symptoms. The FERC cannot solve all the problems. Fixing the retail market is a responsibility that rests with the California regulators and, indirectly, with the governor of California. However, the responsibility for fixing the problems of the wholesale electricity market design rests primarily with the federal regulators at FERC. It is overdue for FERC to go beyond its previously passive and deferential treatment of the California market designers and take aggressive action that would be in the long-term public interest. This action is needed now in California, in the rest of the west, and in the many other regions of the country that are gridlocked over access to the grid. No market design will be perfect or will withstand drastic energy shortages. However, as we have seen, "fundamentally flawed" market designs run great risks.

The means are available through the FERC's powers to create regional transmission organizations (RTOs). Through the creation of effective RTOs, the FERC has the opportunity and

the responsibility to act. If competitive electricity markets are to work, FERC must act soon. Time is running out on further experimentation.

Attachments:

William W. Hogan, "Electricity Market Restructuring: Reform of Reforms," May 2001

Scott M. Harvey and William W. Hogan, "On the Exercise of Market Power Through Strategic Withholding in California." April 2001.

John Chandley, Scott M. Harvey, and William W. Hogan, "Electricity Market Reform in California," November 2000