

ELECTRICITY DEREGULATION: LESSONS LEARNED FROM CALIFORNIA

by Peter Navarro* and Michael Shames**

“California’s deregulation scheme is a colossal and dangerous failure. It has not lowered consumer prices; it has not increased supply. In fact, it has resulted in skyrocketing prices, price-gouging, and an unreliable supply of electricity. In short, an energy nightmare.”

California Governor Gray Davis¹

I. INTRODUCTION

Is electricity deregulation worth pursuing? Or has the failed California “experiment” illustrated that the concept is so inherently flawed that all such efforts should be abandoned? In this article, we examine these questions within the context of some of the lessons learned from the California electricity crisis.²

We offer these lessons on a preliminary basis because, as of the time of this writing, much of the critical information about the California crisis still remains unknown. A myriad of regulatory agencies and private attorneys are embroiled in both criminal and civil investigations; most of these investigations are subject to confidentiality orders, rendering the current public information merely the tip of the iceberg.³

More broadly, new revelations continue to emerge as we write this about the nature of the alleged market manipulations, the full extent of the possible costs involved, and the regulatory processes that may have led to the crisis. With this strong caveat issued, we offer Table One as the foundation upon which we shall build this article. This table summarizes eleven possible lessons from the crisis that may be useful to the major stakeholders in this debate. The stakeholders range from regulatory lawyers, scholars, and policymakers to business leaders, utility executives, and power producers.

Table One: Lessons from the California Electricity Crisis

1. Don’t Deregulate Into A Power Plant Shortage
2. Employ A Suite of Mechanisms to Address Supply-Demand

* Public policy professor at the University of California-Irvine.

** J.D., University of San Diego. Mr. Shames is the Executive Director of the Utility Consumers Action Network (UCAN).

1. State of the State address (Jan. 8, 2001), *available at* <http://www.video.dot.ca.gov/state/transcript.html> (last visited Mar. 26, 2003).

2. For an in-depth discussion of the California crisis from a Federal regulatory perspective, see Nicholas W. Fels and Frank R. Lindh, *Lessons From the California “Apocalypse:” Jurisdiction Over Electric Utilities*, 22 ENERGY L.J. 1 (2001).

3. For discussion, *see generally* Timothy P. Duane, *Regulation’s Rationale: Learning from the California Energy Crisis*, 19 YALE J. ON REG. 471, 534 (2002) [hereinafter *Regulation’s Rationale*].

Imbalances

3. Don't Deregulate Into a Congested Transmission Grid
4. Market Monitoring and Enforcement Matters! Don't Balkanize the Market.
5. Rent-seeking Special Interests Will Attempt to "Capture" the Design, Implementation, Monitoring, and Enforcement Processes
6. A Deregulated Market Paradoxically Will Require the Application of Greater Regulatory Resources
7. A Fully Deregulated Market Will Undersupply Demand Side Management (DSM)
8. A Fully Deregulated Market Will Lead to an Over-Reliance on Natural Gas
9. The Natural Gas and Electricity Markets Must Be Viewed as a System – There Can Be No Free Market in Electricity if the Gas Pipelines are Monopolized
10. The Regulatory Authority (*e.g.*, FERC in the U.S.) must be both a Competent and Fair Broker
11. Establish Swift and Sure Punishments for Rule Violations – Consider both Compensatory and Punitive Damages as Well as Criminal Penalties

In each of the sections of this article, we analyze these lessons from the perspective of California's legal, regulatory, and economic history. The article concludes with some reflections on the meaning of these lessons for the broader deregulation movement.

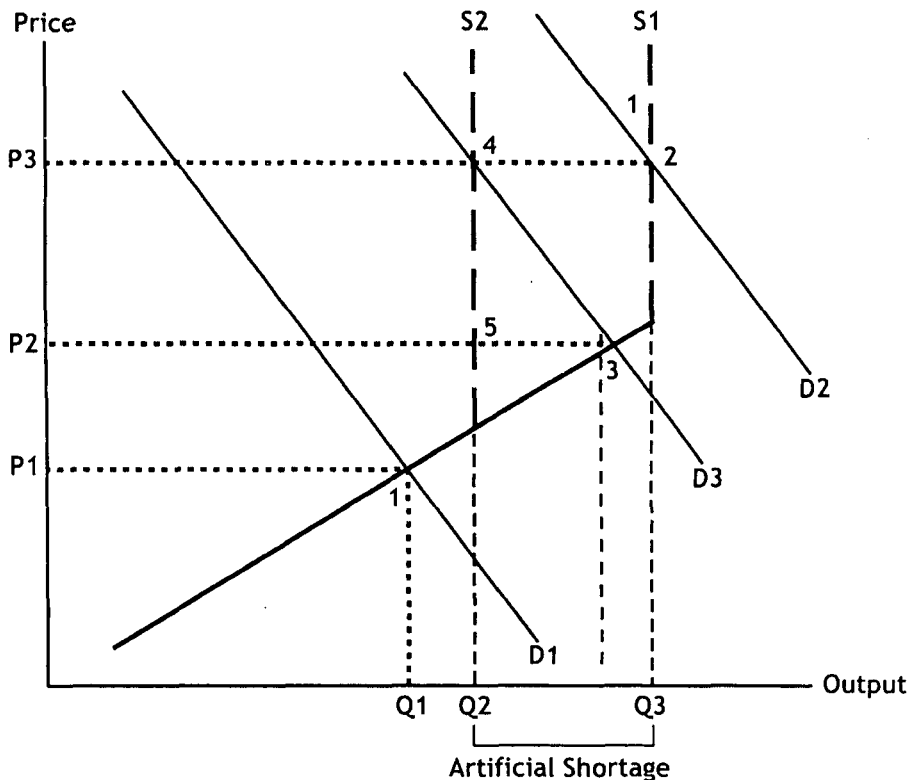
II. DON'T DEREGULATE INTO A POWER PLANT SHORTAGE

To state the obvious, in a perfectly competitive, deregulated wholesale electricity generating market, a shortage will lead to both significantly higher prices and the possibility of supply disruptions, including rolling blackouts.

To state the perhaps more subtle, in an *imperfectly* competitive electricity generating market, the presence of real physical shortages may increase incentives for market participants to *artificially* withhold capacity, which exacerbates the shortage condition and thereby sustains higher prices over a longer period of time than might otherwise exist in a perfectly competitive market.

These situations are depicted in Figure One, which illustrates typical supply and demand curves in a market characterized by short run capacity constraints and possible artificial withholding of power from the market.

Figure One: Four Market Scenarios Under Conditions of Shortage



The supply curve, S1, represents the marginal cost curve of the industry. This curve slopes upward, reflecting the fact that different market participants will have different marginal costs of production which reflect factors such as the vintage and efficiency of a given plant and its fuel source, *e.g.*, a new natural gas-fired, combined cycle combustion turbine will produce power at a substantially lower marginal cost than an older vintage plant.

Note how the upward-sloping supply curve, S1, turns vertical at maximum output Q3. This vertical portion of the curve represents a real *physical* shortage that can occur in the short run because of significant lag times in new power plant construction. Note how the upward-sloping supply curve, S2, turns vertical at Q2. This is what happens when market participants knowingly withhold power from the market so as to drive up price. This can result in an *artificial* shortage as we shall discuss further below.

Note that all three of the demand curves in the figure – D1, D2, and D3 – slope downward, indicating that as prices fall, consumption will rise, and conversely as prices rise, consumption will fall. Here are four possible scenarios associated with this supply-demand setup.

In “Scenario One,” D1 depicts a situation in which there is ample capacity to meet demand, and price is equal to P1 at the intersection of demand and supply at Equilibrium Point 1. Such a situation may result in a perfectly

competitive market, but it may also result in a market in which a group of sellers have only weak or latent market power. In such a case, because there is an abundance of supplies to meet demand, it is difficult for these sellers to withhold enough capacity at the margin to effectively exert any power.

In "Scenario Two," D2 depicts a severe supply-demand imbalance in which demand has outstripped short run supply. In this case, price has soared to P3 at the intersection of D2 and S1 at Equilibrium Point 1. This is well above the marginal cost of production of *all* sellers in the market, and market participants receive significant economic rents associated with the fixed supply. In such a case, a regulatory authority will face a decision as to whether or not to allow such rents to be captured or, alternatively, to impose some kind of short-term price cap based on the sellers' costs of production, either marginal cost or the costs of each of the market participants.

Importantly, note that such a real physical shortage situation is perfectly consistent with a competitive market that sells a product or produces a commodity that can only be delivered with lags, *e.g.*, wheat, because of the seasonal nature of the harvest, or electricity because of the lag times associated with new plant construction. In the absence of price mitigation measures, such a physical shortage will lead to a significant redistribution of wealth from consumers to energy producers. In an electricity context, the regulatory question is whether such rates are "just and reasonable" under the strictures of the Federal Power Act.

Finally, and most interestingly, note the setup of the demand curve D3 and the two additional scenarios associated with it. The first outcome in "Scenario Three" occurs at Equilibrium Point 3 at a price of P2 and an output of Q4. In this case, supply intersects demand at the intersection of D3 and S1, very close to the point where a real physical shortage reflected in the vertical section of S1 would begin to significantly drive up price. However, in this situation, all sellers in the market still provide capacity to the market up to their marginal costs of production. While price rises to P2, this is purely because of competitive market forces.

Note, however, the other possible "market manipulation" with "Scenario Four." This is where a relatively small group of large sellers may have the ability to tacitly collude. In such a case, the oligopolists will have a strong incentive to artificially constrain supply and drive prices up, as reflected in supply curve S2. In such a case, this artificial shortage will drive price up to P3 at the intersection of D3 and S2. This results in a new equilibrium at Equilibrium Point 4, an artificial shortage relative to the market outcome equal to Q4 minus Q2, an increase in price above the competitive outcome from P2 to P3, and the collection of additional economic rents attributable purely to the artificial shortage, where these rents equal the area of rectangle formed by P2 and P3 and Equilibrium Points 4 and 5.

Subsequently, there is a very important difference in observing a price of P3 in Scenario Two in a real shortage and P3 in Scenario Four in the market manipulation, artificial shortage case. In this latter scenario, the economic rent captured by sellers represents the "poison fruits" of the exercise of market power rather than a simple shortage in a competitive market. In such a case, it should

be abundantly clear to the regulatory authorities that prices in this type of situation are unjust and unreasonable.

Not only should the central regulatory authority act to return such rents to consumers, it should also be equipped with sufficient policy and enforcement tools to prevent or deter market participants from withholding supply. These tools should range from price mitigation measures to prevent the capture of such rents (e.g., price caps) to refunds, fines, and sanctions in the event of the successful exercise of market power.

A. First Time Interval of the California Crisis

We move from theory now to the real world of the California electricity crisis. Conceptually, we can think of this crisis in two different time intervals.

The first time interval spanned the period May to September of 2000. In California, this time interval represents an interval in which demand reached a peak of approximately 50,000 megawatts. This is because California is a “summer peaking state” which is hot in the summer and triggers, among other forms of demand, heavy air conditioning use.

During this interval, the state was vulnerable to real, physical shortages of electricity supplies. As for why this was so, the reasons ranged from overly optimistic forecasts of both state regulatory agencies and the utilities themselves to adverse weather conditions that resulted in a reduced level of hydroelectric power.

Not surprisingly, in the face of real electricity shortages, wholesale electricity prices rose dramatically. Thus, this case was more akin to “Scenario Two,” described above, although one must hasten to add that the exercise of market power by sellers may have contributed significantly to the price volatility.

B. Second Time Interval of the California Crisis

As for the second time interval, it spanned the period from roughly October 2000 to April of 2001. During this non-peak demand period, demand was in the range of 35,000 megawatts as mild winters substantially reduce air conditioning use and many consumers turn to natural gas heating for their climate control needs.

During this period of time, it has become increasingly clear from the emerging evidence that there were few instances of any real physical shortages of electricity at the supply margin. Rather, the shortages that were observed were largely *artificial*. They resulted from the exercise of market power by a small group of sellers in the market that withheld capacity, which could otherwise have been used.

As the California Public Utilities Commission (CPUC) has noted in its study of five key producers – Dynegy, Duke, Mirant, Reliant, and AES/Williams – if these producers had provided available capacity on a timely basis, the state could have avoided “14 out of 16 blackout hours (88% of the total) in Southern California . . . 10 out of 23 blackout hours (43% of the total) in Northern California . . . 161 out of 219 hours of service interruptions (74% of the total) in

the South . . . [and] 116 out of 257 hours of service interruptions (45% of the total) in the North.”⁴

Thus, this second interval of time is more akin to Scenario Four described above in which sellers were able to turn what might have otherwise been mild supply-demand imbalances into a severe crisis marked by soaring prices and numerous supply disruptions. Accordingly, all of the policy prescriptions indicated above would apply, including price caps, refunds, and fines.

For now, let us simply observe that this debate will hinge around the questions as to whether or not market participants should be allowed to keep “infra-marginal rents” and whether or not any refunds should be used to provide punitive as well as compensatory damages to the injured parties. The broader lesson to be gleaned from all of this is simply that to deregulate into a shortage of electricity generating capacity is to invite soaring prices and supply disruptions, including rolling blackouts.

III. EMPLOY A SUITE OF MECHANISMS TO ADDRESS SUPPLY-DEMAND IMBALANCES

Even if a system of deregulation is introduced during a period of adequate power plant capacity, over time, the market may periodically suffer from supply-demand imbalances, accompanied by all of the attendant problems of price volatility, supply disruptions, and the exercise of market power outlined in Lesson I.

The most likely reason supply-demand imbalances may occur is that market participants individually and/or the regulatory authorities collectively may under-forecast demand or over-forecast available supplies. The result may be a failure to build adequate power plant capacity. This failure may be compounded by an under-investment in demand side management technologies.

Prior to the deregulation of the electricity generating system, the traditional solution to preventing such supply-demand imbalances was to impose strict reserve margin requirements on the regulated utilities.⁵ However, in a deregulated market, it is useful to look at the problem not as a reserve margin problem but rather as a problem of supply-demand imbalances. Viewed from such a global perspective, the solution is not one mechanism but a suite of mechanisms.

A. Bureaucratic Versus Market Responses

In the wake of the California crisis, California has chosen to address the supply-demand imbalance issue by forming a public agency. On May 16, 2001, Governor Davis signed Senate bill 6X creating the California Power and

4. California Public Utilities Commission, *Supplement to the California Public Utilities Commission Staff's Wholesale Generator Investigation Report, Dated September 17, 2002*, 5 (Jan. 30, 2003) available at <http://www.cpuc.ca.gov/PUBLISHED/REPORT/23168.htm> (last visited Apr. 2, 2003).

5. See generally Peter Fox-Penner, et al., *Competition in Wholesale Electric Power Markets*, 23 ENERGY L.J. 281 (2002); Joseph P. Grassi, *As Summer Approaches, Commercial Power Consumers in New York and New Jersey Keep a Wary Eye on West Coast's Energy Debacle*, PRINTING NEWS (May 28, 2001), at <http://www.printingnews.com/pages/issues/2001/52801/energy.shtml> (last visited Mar. 23, 2003).

Conservation Authority. The primary purpose of this new bureaucracy is to insure the state has adequate reserve margins and a more diversified energy mix. On the supply side, the power authority will facilitate the construction of alternative energy plants (to diversify the energy mix). On the demand-side, the power authority will seek to boost conservation and demand-side management efforts.

IV. DON'T DEREGULATE INTO A CONGESTED TRANSMISSION GRID

It is not enough to have adequate reserve margins and enough power plant capacity to comfortably meet peak demand. It is equally essential to have adequate transmission capacity to move power from the generating station to the end-user. Unfortunately, one of the negative by-products of our regulatory system is that it has often provided utilities with a lack of incentives to either build new transmission resources or upgrade the existing grid.

In California, some of the supply disruptions were the direct result not of any physical or even artificial shortages of electricity. Instead, the problems arose because of marketers' exploitation of the lack of adequate transmission capacity.⁶ In this regard, the most critical segment of the grid during the crisis would turn out to be Path 15, which links northern and southern California. During the crisis, there were a number of times in which there was sufficient power in the south to prevent supply disruptions in northern California *if* there had been enough transmission capacity.⁷ In part because of a lack of transmission capacity and in part because of poor market design, a number of participants were also able to strategically "game" the congested grid.⁸

The broader lesson here is simply that a transmission grid free of congestion is just as important to insure the integrity of the system as adequate power plant reserve margins. As to how one uses the policy process or market forces to ensure the existence of an adequate grid, this too is problematic. Between the Scylla of the negative incentives of traditional regulation and the Charybdis of a possibly equally flawed deregulation or performance based ratemaking, the question remains as to what policies might be most effective at addressing this problem.

V. MARKET MONITORING AND ENFORCEMENT MATTERS! DON'T BALKANIZE THE MARKET.

In California, the state legislation enabling the electricity market restructuring⁹ set up a "separated, sequential" market that featured two non-

6. See generally *Regulation's Rationale*, *supra* note 3.

7. Press Release, California ISO, Path 15 Transmission Constraints Lead to Concurrent Stage One and Stage Two Emergencies (Dec. 21, 2000), available at <http://www.caiso.com/docs/2000/12/12/200122109384210787.pdf> (last visited Mar. 23, 2003).

8. There were several variations on this game, but they all revolved around the same principle: use the market bidding system to create artificial congestion on the grid, and then benefit from this congestion either by charging higher prices or by receiving fees from the state to reduce the artificial congestion.

9. AB 1890 was passed unanimously by the California legislature in 1996. A.B. 1890 § 854, 1996 Cal. Stat. 854, codified, in relevant part, at CAL. PUB. UTIL. CODE §§ 330-398.5 (Deering 2001) [hereinafter AB 1890].

profit entities: an Independent System Operator (ISO) and a Power Exchange (PX). The ISO's primary job was to act as a "traffic cop" for the transmission grid. The purpose of the PX was to provide auction markets to set wholesale prices. It was set up so that buyers and sellers would submit their bids; these would be used to calculate the price of electricity either for the next day or on an hourly basis. Unfortunately, the auction markets at the PX were set up in such a way as to insure that power purchases would always be very close to the market's cap.

The failure of the PX was a matter of market structure: the transparency that allowed the PX to provide power at equal cost to large and small buyers alike was the very component that allowed sellers to know the maximum price they could exact from a sale. This factor, *coupled with a limited electricity supply*, assured that the power purchases would always be near the market's cap.¹⁰

Perhaps not surprisingly, when the ISO and PX opened for business on March 31, 1998, these markets began to experience problems of market power abuse almost immediately. Just two months later, the ISO's Market Surveillance Committee and staff would raise concerns about price manipulation and inappropriate gaming of supply.¹¹

In fact, such a market was doomed to failure. Ultimately, the problem lay in the fact that the market would use a set of auction rules that could be easily manipulated in times of electricity shortages. Many observers have criticized the auction itself for being the "villain" in the resultant market-gaming piece. However, the real problem was not the auction rules *per se*, which are widely used to set prices of commodities. Rather it was the fact that neither the PX nor the ISO, or any other state agency, had the authority to monitor the various suppliers into the market, nor did any state authority have the power to order any of the generators to supply power into the market during conditions of shortage. Moreover, this problem was exacerbated by the balkanized nature of the market in which the PX and ISO were separate and, unlike other power markets around the country, the ISO was nothing more than a "price taker" when it came to accepting prices set by the PX.

[I]f an insufficient amount of electricity was bid to meet the next day's demand, the Independent System Operator had the authority (as the 'buyer of last resort') to make electric purchases on behalf of the utilities and bill them later. In such a tight market and knowing that the ISO had to balance transmission flows to keep the lights on, generators were able to set any price.¹²

Because of this lack of any market monitoring or enforcement power, once electricity supplies began to tighten, it was easy for market participants to exacerbate the problem by artificially withholding power from the market. The bottom line is that a deregulated market must have both "cops" to act as monitors to catch infractions and "judges" that can act as enforcers to mete out

10. William A. Borders, *Learning from the Storm: Lessons for Illinois Following California's Experience with Electricity Restructuring*, 77 CHI-KENT L. REV. 333, 342 (2001) [hereinafter *Learning from the Storm*].

11. Memorandum from Anjal Sheffrin to the Market Issues Committee (May 21, 1998), available at <http://www.caiso.com/docs/2001/03/27/2001032710133521958.pdf> (last visited Apr. 2, 2003).

12. *Learning from the Storm*, *supra* note 10, at 349.

punishment as a deterrent to future infractions. Accordingly, both monitoring and enforcement matters.¹³

VI. RENT-SEEKING SPECIAL INTERESTS WILL ATTEMPT TO “CAPTURE” THE DESIGN, IMPLEMENTATION, MONITORING, AND ENFORCEMENT PROCESSES

Once it is decided to deregulate a state’s electricity generating market, there arises the very practical question as to what entity or entities should be responsible for the design, implementation, monitoring, and enforcement of the market. In California, public officials chose the vehicle of the “stakeholder board” to assume these tasks in coordination with the FERC and with oversight by the FERC.

In particular, AB 1890¹⁴ called for the formation of two such stakeholder boards, one to oversee the PX and the other to oversee the ISO. In the public interested view of government, these stakeholders boards should represent the interests of all those concerned in such a way, one must presume, to yield an appropriately optimal regulatory outcome. Represented on these boards were interests that ran the gamut from the public and private utilities, the independent power producers, and both large and small business interests to consumer and environmental interests.¹⁵

However, there is a competing and much darker private interest view of government, which may well be more pertinent here. In particular, in Nobel Laureate George Stigler’s famous “capture” or economic theory of regulation,¹⁶ “rent seeking” special interests will typically try to use the government for their own ends. The most politically powerful “rent seekers” are the merchant generators seeking to obtain market power in the wholesale market and the large industrial consumers seeking to bypass that market through the vehicle of “direct access” bilateral contracts. On the PX and ISO stakeholder boards, these two interests were part of a coalition that allowed them to exert their influence in far greater proportion than their numbers. The end result was the set of market rules that turned out to be exceedingly easy to legally manipulate in times of tight electricity supplies.

Note, however, that it was not only the fact that the stakeholder boards helped design market rules that were easy to game. When it came time to monitor the rules and enforce abuses of the system, both the PX and ISO were

13. Note, however, that it may well be that a more centralized market form such as is used in the PJM market that serves the Mid-Atlantic region of the United States may be preferred to the balkanized market approach, at least when it comes to the issues of monitoring. This will be all the more so if the centralized market authority has the power of “post hoc” pricing as PJM does. That is, unlike California’s ISO, PJM can refuse to accept a price that results from destructive gaming of the market. For a description of the PJM (which may overstate its achievements), see generally PA Consulting Group, PJM-Electric Power Competition That Works (July 2, 2001), available at <http://www.paconsulting.com/energy/pjm/index.html> (last visited Apr. 10, 2003).

14. A.B. 1890, *supra* note 9.

15. For discussion, see generally AB 1890, *supra* note 9; CALIFORNIA ENERGY COMMISSION, POLICY REPORT ON AB 1890 RENEWABLES FUNDING, PUB. NO. P500-97-002 (Mar. 1997), available at http://www.energy.ca.gov/reports/1997-03-28_final_report.html (last visited Mar. 23, 2003).

16. G. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971).

equally lax. This problem was noted roughly in the middle of the crisis by the FERC in its December 15, 2000 order calling for the disbanding of the stakeholder boards and their reconstitution:

A second critical issue we address is the ability of the ISO and PX to operate and implement wholesale markets and the ability of the ISO to operate a transmission system reliably and efficiently under the governance of its stakeholder board of directors. *The functioning of wholesale markets and the reliability and efficiency of the interstate transmission grid cannot be compromised by a decision-making process that is overly complex, mired in controversy, or prone to excessive influence by special interest groups.* Boards, whether comprised of stakeholders or non-stakeholders, must be able to respond decisively to conditions necessary to maintain system integrity and operation. Most importantly, because the markets operated by the PX and the ISO are interstate markets and the transmission system operated by the ISO is part of an interstate transmission grid, the ISO's decision-making process must be responsive to the operations and the welfare of the regional marketplace, and not be restricted to the concerns of one geographic location or one segment of the market. Based on past performance, the ISO and PX boards no longer meet these standards.¹⁷

It follows that in any deregulation effort policymakers must be vigilant to ensure that the rent-seeking special interests do not exert undue influence on the design, implementation, monitoring, and enforcement of the deregulated market. At the time of this writing, California's governor and the FERC remain mired in a dispute over how the market's governing boards should be constituted and a broader conflict over the issue of states' right versus Federal regulatory jurisdiction. While the governor insists that board members be appointed by him and confirmed by the California Senate, the FERC proposed and "independent" boards be formed as follows:

[E]ach new independent non-stakeholder board consist of seven voting members with the President (or CEO) as a voting member. The six other voting members will be selected by the current boards of the ISO and the PX, from a separate slate of candidates for each entity prepared by an independent consultant. The consultants are to be selected by the CEOs of the ISO and PX. The Boards should include members with experience in corporate leadership (at the director or board level) or professional expertise in either finance, accounting, engineering or utility law and regulation. The PX board should include members with expertise in areas of commercial markets and trading. The ISO board should include members with experience in the operation and planning of transmission systems. To allow sufficient time for this transition to occur, we propose to require the current ISO and PX Governing Boards to vote in new independent, non-stakeholder board members selected from the consultant's slate of candidates and disband the existing stakeholder boards within 90 days from the date of this order. We emphasize that the sole responsibility of the existing boards in the selection process is to pick from the slate of qualified candidates identified by the independent consultant.¹⁸

An appointed board must have some accountability to the public interest. It is unclear, however, in a world of political patronage in which appointments to "plum" boards are often rewards for campaign support rather than acknowledgement of skills and expertise, that Governor Gray Davis' proposal

17. *San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Servs.*, 93 F.E.R.C. ¶ 61,294, 61,359-60 (2000) [hereinafter *San Diego Gas II*], clarified by 94 F.E.R.C. ¶ 61,294 (2001) (emphasis added).

18. 93 F.E.R.C. ¶ 61,294, at 61,364.

for a board picked by him will yield a result any better than the original stakeholder board. Nor is it any more apparent that some type of elected rather than appointed board will yield any better result as well. As we have learned from the debate over elected versus appointed public utility commissions, an elected board may perform less well than an appointed one.¹⁹

VII. INCREASE REGULATORY RESOURCES, DON'T CUT THEM!

One might reasonably assume that once a deregulation system is put into place, one can then reduce expenditures on the original regulatory bureaucracy. While that may be an intuitive conclusion, it couldn't be more wrong. Indeed, unless the new market is designed very, very well, problems are likely to arise that will require *more* regulatory attention than was needed in the *status quo ante* of rate regulation – at least in the early implementation stage.

In the California case, all major state agencies, from the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) to the Department of Water Resources (DWR) saw their workloads increase dramatically as a direct result of the deregulation and restructuring effort. The increase in workload was perhaps most severe for the CPUC. As the Office of Ratepayer Advocates within the CPUC noted in a July 6, 2001 letter to the Chairman of the State Assembly's Utilities and Commerce Committee: "CPUC advocacy staffing levels were reduced . . . in anticipation of a reduced regulatory workload resulting from energy and telecommunications restructuring. This reduction in workload has not occurred, in fact, the workload has increased."²⁰

As for the California Energy Commission, it apparently bought into the notion that the California restructuring would lead to a slimmer, trimmer, and increasingly unneeded regulatory entity. In 1997, the first year of the implementation of AB 1890, the Commission cut 6% of its positions (from 496 to 468 positions).²¹ By fiscal year 2000-2001, under the gun of the crisis, the CEC's positions had been increased to 563, a 20% increase over just two years earlier. Even that was inadequate to promptly and adequately address the numerous complaints by generators of power plant siting delays.²²

For its part, the DWR quite literally was forced to assume the workload of the state's major utilities. Amidst rolling blackouts, on January 17, 2001 California Governor Gray Davis stepped in with an emergency order that directed the state's DWR to assume responsibility for the procurement of a major portion of power for the state's three major utilities.²³ Not only did this

19. Peter Navarro, *Public Utility Commission Regulation: Performance, Determinants, and Energy Policy Impacts*, 3 ENERGY L.J. 119 (1982).

20. Letter from Regina A. Birdsell, Director, Office of Ratepayer Advocates, to the Honorable Roderick D. Wright, Assembly Utilities and Commerce Committee (2001), available at http://www.ora.ca.gov/Legislation_advoc/SB201_support_letter.doc (last visited Mar. 23, 2003).

21. California Energy Commission Strategic Plan, Appendix D (1997), available at <http://www.energy.ca.gov/reports/strategicplan/STRAPLA.PDF> (last visited Apr. 2, 2003).

22. California State Auditor Report, *California Energy Commission: Although External Factors Have Caused Delays in Its Approval of Sites, Its Application Process Is Reasonable*, p.1 (2001), available at http://www.energy.ca.gov/siting/documents/2001-08-24_STATE_AUDITOR.PDF (last visited Apr. 2, 2003).

23. The Governor's Proclamation was attached as Appendix A to CPUC Decision (D.) 01-01-061.

task strain the resources of the DWR from a purely man-hours standpoint. It also resulted in an arguable mismatch of skills in the market.

It wasn't just the California regulatory bureaucracies that saw their workloads increase in the wake of deregulation. The FERC was faced with a surge of complaints and new cases as well, along with the need for greater monitoring and enforcement of the markets. This was acknowledged by both the words and deeds of Patrick Wood, who took over as FERC Chairman in September of 2001. Wood doubled the FERC's market-oversight staff to 200 investigators and doubled its budget to \$12 million. Wood also asked Congress for more investigators.²⁴ This issue of inadequate staff was reiterated in a sharp critique of the FERC by the Government Accounting Office: "FERC does not currently have enough staff with the skills and knowledge of competitive energy markets to effectively regulate and oversee these industries."²⁵

The broader point is that deregulation, particularly if it is not initially well-designed, is likely to increase the draw on regulatory resources, at least in the beginning. Accordingly, deregulators should not be too quick to dismantle the regulatory bureaucracy. More prudently, it may well be better to *increase* regulatory budgets in the early stages of the deregulation effort and only decrease those budgets after a comfort level is reached with the new system.

VIII. A FULLY DEREGULATED MARKET WILL UNDERSUPPLY DSM

Demand side management (DSM) refers to what can be done on the customer's side of the meter to change the amount or timing of energy consumption.²⁶ The immediate goal of DSM is to reduce energy consumption and consumer energy expenses in a way that maximizes end-use efficiency. The broader target is to avoid or postpone the construction of new generating plants by maximizing the use of cheaper and more efficient baseload generation and reducing the need for spinning reserves and more expensive peaking plants.

For example, investments in various energy conservation technologies such as energy-efficient lighting, appliances, and building retrofits can be used to either reduce load or to level out the load so as to smooth out the peaks ("peak shaving") and dips ("valley filling") in energy usage. This reduces the need for standby capacity. Similarly, rates can be structured so as to encourage consumers to change their patterns of energy use. In particular, "time of use rates" involve charging higher prices for peak electricity in order to shift demand to off-peak periods. "Interruptible" customers can get discounts in exchange for a user commitment to reduce demand when requested. Perhaps most relevant to

24. Testimony of Pat Wood, III, Chairman, Federal Energy Regulatory Commission Before the Committee on Governmental Affairs United States Senate, November 12, 2002, *available at* <http://www.ferc.gov/news/congressionaltestimony/Wood-11-12-02.pdf> (last visited Apr. 2, 2003). Note, however, that as we shall see in Section X below, it is unclear as to whether the presence of Wood has materially improved the FERC's performance.

25. Report to Congressional Requesters, United States General Accounting Office, *Energy Markets: Concerted Actions Needed by FERC to Confront Challenges That Impede Effective Oversight*, p. 8 (June 2002) *available at* <http://www.gao.gov/new.items/d02656.pdf> (last visited Mar. 23, 2003).

26. For a classic discussion of the theory of market failure see generally Francis Bator, *The Anatomy of Market Failure*, 72 Q. J. OF ECON. 351-79 (1958).

the California case, “real time pricing” can be used to adjust prices according to the load and the generation mix.

The well-established economic problem with investments in DSM is that they are plagued by a classic market failure.²⁷ While the costs of DSM investments are easy to measure, the benefits are both difficult to measure and hard for the investor to capture. Therefore, in a free market, DSM, which generates positive externalities which market participants are unable to monetize, will tend to be under-supplied.

In California, an aggressive DSM program, including metering and real time pricing, could have mitigated much of the damages spawned by the market manipulation. As William Borders has noted “if [real time pricing] meters had been installed before the summer of 2000, California would have seen estimated load reductions of one thousand to two thousand MW, price reductions during peak periods of 6 to 19 percent, and overall cost savings ranging from \$300 million to \$1.2 billion.”²⁸

This may well be true. But how do you get an entity like a utility or third party provider to make such an investment when the “returns” to such an investment can’t be reaped precisely because the investment helps prevent a costly crisis? In a very practical way, therein lies the nub of the DSM problem. It may well be solved at some point by some type of market mechanism operating underneath a regulatory umbrella, but never by the free market alone.

IX. A FULLY DEREGULATED MARKET WILL LEAD TO AN OVER-RELIANCE ON NATURAL GAS

Globally, many analysts have noted a worldwide “dash for gas.”²⁹ That is, around the world, the fuel of choice to meet rising electricity demand at the margin is the natural gas-fired, combined cycle combustion turbine. Such power plants are highly efficient and entail far lower capital costs than large central station coal or nuclear plants. At least when natural gas is relatively cheap, this makes gas-fired generation the most economic choice.

There are two problems, however, with this dash for gas that a deregulated electricity market does not recognize. The first is environmental. While individually, the economics of the dash for gas around the globe makes sense, collectively, this dash has led to the rise of an increasingly less diverse generating mix that emits substantial pollution, particularly in the realm of so-called “greenhouse gases” which have been associated with the problem of global warming.³⁰ From the economist’s perspective, this suggests a potential market failure in the form of negative pollution externalities.

The second problem, which is more pertinent to the California case, is that an over-reliance on natural gas exposes the deregulated market and its consumers to natural gas price shocks and the possible exercise of market power.

27. *Id.*

28. *Learning from the Storm*, *supra* note 10, at 354.

29. See generally 6 IAN RUTLEDGE AND A. PHILLIP WRIGHT, NATURAL GAS COMPANIES WORLDWIDE: COMPETITION & PERFORMANCE INDICATORS (2001).

30. *Id.*

X. THE NATURAL GAS AND ELECTRICITY MARKETS MUST BE VIEWED AS A SYSTEM: THERE CAN BE NO FREE MARKET IN ELECTRICITY IF THE GAS PIPELINE SYSTEM IS PLAGUED BY MARKET POWER

At critical junctures in the California electricity crisis, natural gas prices spiked significantly. The first set of price spikes occurred in the summer of 2000 as the crisis was beginning.³¹ The second major set of price spikes occurred during the winter of 2000-2001 at the very height of the crisis.³² These higher gas prices, in turn, inflated the cost of natural gas-fired electricity generation in California.³³ The second spike also allowed merchant electricity generators to pass these higher costs onto the wholesale price of electricity at levels *above* the "protective" electricity price caps that had been put in place.

Why did gas prices rise so substantially? Certainly weather and increased demand over the whole *national* gas system played a role. However, these factors do not fully explain why from December 1999 to December 2000 the price of gas nearly tripled nationwide, but the price increased by a factor of six in California.³⁴

This California price differential can be traced in part to the ability of the major pipeline serving Southern California – El Paso Natural Gas – to successfully exert market power during the crisis.³⁵ How El Paso was able to exert such power offers not only a classic case of strategic gaming but also illustrates how the exercise of such power was unwittingly facilitated by a significant change in federal regulatory policy.

The policy change in question in Order 637³⁶ involved the lifting of price caps for the short-term sales of gas pipeline capacity "in response to the growing development of more competitive markets for natural gas and the transportation of natural gas."³⁷ Specifically, "[t]he rule grants a waiver for a limited period of the price ceiling for short-term released capacity to enhance the efficiency of the market while continuing regulation of pipeline rates and services to provide protection against the exercise of market power."³⁸

Perhaps in anticipation of Order 637, El Paso's strategic gambit began on February 15, 2000 when the company announced the sale of roughly one-third of its capacity to an affiliate, El Paso Merchant, for a period of 15 months – between March 2000 and May 2001. The practical effect of the FERC's policy change was to allow El Paso to sell gas on the market at deregulated prices through its affiliate El Paso Merchant.

In response to higher Summer 2000 gas prices, both the merchant

31. *Learning from the Storm*, *supra* note 10, at 348; *Regulation's Rationale*, *supra* note 3, at 511.

32. *Regulation's Rationale*, *supra* note 3, at 511.

33. *Id.* at 516.

34. *Regulation's Rationale*, *supra* note 3, at 511.

35. *Id.* at 511-12.

36. Order 637, *Regulation of Short-Term Natural Gas Transportation Services, and Regulation of Interstate Natural Gas Transportation Services*, 65 Fed. Reg. 10,155 (2002) (to be codified at 18 C.F.R. pts. 154, 161, 250, and 284).

37. *Id.* at 10,156.

38. 65 Fed. Reg. 10155, at 10,156.

generators and large industrial customers wound up buying far less gas for the Winter than was typical.³⁹ As a result, during that Winter, which marked the height of the electricity crisis, and with the amount of gas in storage far below historical averages,⁴⁰ prices rose first from typical levels of 25-50 cents/MMBtu to the \$15 range and as high as \$60!⁴¹

The impact of these soaring gas prices on the electricity market was quite direct. This is because the merchant generators were allowed to pass through the soaring gas prices onto the price of electricity under the rules set up by the FERC and the ISO.⁴²

As a coda to this lesson, on April 4, 2000, the CPUC filed a complaint before the FERC against El Paso Natural Gas Company and its merchant affiliate.⁴³ On October 8, 2001, a FERC administrative law judge found the companies guilty of “blatant collusion.”⁴⁴ However, the ALJ would conclude:

While the Chief Judge finds that El Paso Pipeline and El Paso Merchant had the ability to exercise market power, the record in this case is not at all clear that they in fact exercised market power. Therefore, the issue in the complaint concerning whether El Paso Pipeline and/or El Paso Merchant may have had market power and, if so, exercised it to drive up natural gas prices at the California border should be dismissed. The Chief Judge further finds that for the reasons stated before herein, El Paso Corporation, El Paso Pipeline, and El Paso Merchant are guilty of affiliate abuse and have violated Commission’s Standards of Conduct F and G.⁴⁵

The story hardly ended here. The FERC’s staff recommended “a more complete investigation.” On December 27, 2001, the FERC, under increasing political scrutiny and pressure,⁴⁶ ordered Wagner to take another look. This time, in the Initial Decision, Wagner ruled in favor of California.

The Chief Judge finds that El Paso Pipeline withheld extremely large amounts of capacity that it could have flowed to its California delivery points in violation of its certificate obligation and in violation of its 10-year settlement agreement which substantially tightened the supply of natural gas at the California border significantly broadening the basis differential.⁴⁷

The Chief Judge further finds, and modifies his October 9, 2001, Initial Decision to the effect that El Paso Pipeline had the ability to exercise market power and that El Paso Pipeline did in fact exercised [sic] market power by withholding substantial volumes of capacity to its California delivery points, which tightened the supply and broadened the basis differential.⁴⁸

39. Bruce B. Henning, *The North American Natural Gas Market: Yesterday, Today, and Tomorrow*, Presentation at EIA-NASEO Winter Fuels Outlook 2001 Conference (Oct. 4, 2001), available at <http://www.naseo.org/events/winterfuels/2001/presentations/Henning1.pdf> (last visited Mar. 26, 2003).

40. *Id.*

41. For accounts, see generally Andrew Ware, *Once Again, Gas Analysts Warn a ‘Perfect Storm’ Could Strike Natural Gas*, NATURAL GAS WEEK, Dec. 30, 2002.

42. *Regulation’s Rationale*, *supra* note 3, at 512.

43. *Public Utils Comm’n of Cal. v. El Paso Natural Gas Co.*, 97 F.E.R.C. ¶ 63,004 (2001).

44. *Id.* at 65,023.

45. 97 F.E.R.C. ¶ 63,004, at 65,029.

46. *Public Utils Comm’n v. El Paso Natural Gas Co.*, 97 F.E.R.C. ¶ 61,380 (2001).

47. *Public Utils Comm’n v. El Paso Natural Gas Co.*, 100 F.E.R.C. ¶ 63,041, 65,157 (2002).

48. *Id.*

As this article was going to press, El Paso announced a preliminary \$1.7 billion settlement with the attorney generals of California, Washington, Oregon, and Nevada in response to a lawsuit filed in San Diego Superior Court.⁴⁹ The deal included a mix of cash, stock, and natural gas, with \$1.4 billion slated to be benefit ratepayers but included a stipulation that the company did not admit any wrong-doing. Acceptance of the settlement would end the litigation as well as the FERC case.⁵⁰ Nonetheless, the broader lesson learned is this: the natural gas and electricity markets must be viewed as a system, and there can be no free market in electricity if the gas pipelines are monopolized.

XI. THE CENTRAL REGULATORY AUTHORITY (E.G., FERC) MUST BE COMPETENT AND FAIR

No contest can be fair without a referee that is not only fair, but competent as well. While hindsight is always 20-20, it is abundantly clear in hindsight that the central regulatory authority in the case of California, namely the FERC, may have failed in its role as referee.

Here, we examine that failure within the context of three of the four major points of the deregulation compass: market design, implementation, and monitoring. In the next section, we address the fourth point of enforcement within the broader context of the need for a set of clear rules and appropriate sanctions for breaking such rules. By way of summary, we will make the following points:

- During the market design phase, the FERC ignored the many warnings of major stakeholders that the proposed design, eventually largely implemented, would be highly vulnerable to gaming.⁵¹
- Once the market began to be plagued by price volatility and supply disruptions, the FERC refused to acknowledge a root cause of the problem – the exercise of market power – and, accordingly, did not take appropriate or timely remedies.⁵²
- As the crisis worsened, the remedies that the FERC chose to adopt actually led to even higher prices and encouraged strategic gaming of the market.⁵³
- Only after the crisis had subsided did FERC adopt a comprehensive set of remedies that, if adopted months earlier, would have mitigated much of the damage.⁵⁴
- Even with some of the remedies that “worked,” the result was an arguably unfair redistribution of income from consumers to producers in

49. Press Release, El Paso Corp., El Paso Corp. Reaches Agreement in Principle to Resolve Claims Relating to Western Energy Crisis (Mar. 21, 2003), available at <http://www.elpaso.com/press/newsquery.asp?slid=4121> (last visited Mar. 23, 2003).

50. If Wall Street is any arbiter of who got the best of the settlement, El Paso's stock rallied sharply on the news.

51. See generally discussion *infra* Section X.A.

52. *Id.*

53. See generally discussion *infra* Section X.B.

54. See generally discussion *infra* Section X.A.

contradiction to both the letter and spirit of the Federal Power Act's standards of "just" and "reasonable" rates.⁵⁵

- The FERC's unwavering commitment to the long-term goal of establishing a deregulated market in electricity generation obscured the dangers of what would amount to a short run cataclysm. This has harmed its "cause" of deregulation.⁵⁶

A. An Overview of the Market's Dysfunction

The FERC's role in the California restructuring effort can be viewed in the context of four time intervals and three FERC orders. The first interval involved the time between the events leading up to passage of the restructuring legislation AB1890 in August of 1996 and the opening of the wholesale generating market on March 31, 1998.

The second interval, which culminated in the issuance of the FERC's August 23, 2000 Order,⁵⁷ spanned the time from Spring thru the Summer of 2000. During that Summer, wholesale rates soared well above frozen retail rates, unregulated retail prices more than doubled for San Diego ratepayers, and two of the state's major utilities began to incur what would eventually amount to, by the utilities' calculations, roughly \$13 billion in debt. With the issuance of the August 23, 2000 Order, the Commission instituted formal hearing proceeding under section 206 of the Federal Power Act to determine the justness and reasonableness of rates.⁵⁸

The third part of the crisis occurred during the Fall of 2000. During this period, the market remained highly volatile, market prices continued to be well above the marginal costs of production, and sellers in the market collected significant economic rents. During this time, as the "peak demand" season of Summer gave way to the non-peak demand season of Fall, it became increasingly apparent to most market observers that there was far more than a simple imbalance of supply and demand driving prices in the market.⁵⁹ In response to this market "dysfunction," the FERC issued its December 15, 2000 Order prescribing what it believed to be a set of appropriate mitigation measures.⁶⁰

Finally, the fourth part of the crisis spanned the interval between the height of the crisis during the months of January through March to the subsiding of the crisis and the issuance of the FERC's June 19, 2001 Order.⁶¹ This last order instituted a set of mitigation measures which, as we shall see, if adopted earlier would have mitigated a large part of the crisis. We now look at each of these four intervals of time through our lens of market design, implementation, and

55. See generally discussion *infra* Section X.C.

56. See generally discussion *infra* Section X.C.

57. *San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Servs.*, 92 F.E.R.C. ¶ 61,172, 61,606 (2000) [hereinafter *San Diego Gas I*].

58. 16 U.S.C. §§ 824d-824e (2000).

59. *San Diego Gas II*, *supra* note 17, at 61,984.

60. *Id.*

61. *San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Servs.*, 95 F.E.R.C. ¶ 61,418 (2001).

monitoring.

On August 2, 2000, San Diego Gas & Electric Company (SDG&E) filed a complaint in Docket No. EL00-95-000 against all of the sellers into the ISO and PX markets which were subject to the FERC's jurisdiction. As part of this complaint, SDG&E requested that the FERC impose a strict \$250 price cap for sales into those markets.⁶²

In its August 23, 2000 Order, the FERC denied this request on the grounds that SDG&E had not provided sufficient evidence to support an immediate seller's price cap. Instead, the FERC instituted formal hearing proceedings under the Federal Power Act.⁶³ In this order, we get an early glimpse of the FERC's free market orientation as well as its longer term perspective on what, in reality, would be an exceedingly intense short run crisis. We are also witness to the FERC's antipathy to price caps and to its use of a strict interpretation of process to limit its intervention into the market.

For example, while expressing its "concern," the FERC blames the crisis on a number of factors – some out of its control and jurisdiction, while implicitly downplaying the role of the exercise of market power.

We note that a number of factors have interacted to lead to these rate increases, and that many of the factors that contributed to these increases fall within the jurisdiction of state regulators and are not within the jurisdiction of the Commission, including: (1) siting of new generation and transmission facilities; (2) lack of demand-side programs that allow consumers and businesses to receive and respond to price signals; (3) rules under which SDG&E provides retail electric service which limit its actions as a purchaser of wholesale power . . . ; and (4) retail rate designs that do not offer retail customers of SDG&E the option to arrange for stable, levelized rates. And, of course, the severe weather which has blanketed the West and exacerbated the generation supply shortage that exists in California is beyond the control of any public body.⁶⁴

What the FERC fails to mention is the flawed market design that it approved despite warnings from consumer interests and which created significant opportunities for the exercise of market power.⁶⁵

In rejecting SDG&E's request for price caps in favor of a formal proceeding to determine "whether certain market or institutional factors cause the anomalous prices, and whether the anomalous prices are unjust, unreasonable, unduly discriminatory or preferential,"⁶⁶ the FERC argues as follows:

While we find it appropriate to institute a Section 206 hearing on these issues, we cannot implement an immediate price cap of \$250/MWh as requested by SDG&E because there is no record before us to support such an action. . . .

. . . .

SDG&E has provided no evidence to demonstrate that all potential sellers are able to exercise market power, has not documented a single instance of a seller exercising market power during times of scarcity, and did not attempt to show that

62. *San Diego Gas I*, *supra* note 57, at 61,603.

63. *Id.* at 61,606.

64. *San Diego Gas I*, *supra* note 57, at 61,605.

65. *Id.* at 61,607.

66. *San Diego Gas I*, *supra* note 57, at 61,605.

the conditions underlying the Commission's approval of market-based rates for public utility sellers of energy and ancillary services have changed. . . . In addition, *the ISO's analysis raised concerns that a cap at this level would call into question the ISO's ability to attract sufficient supply to meet the totality of California loads*, and SDG&E has not provided any basis for the Commission to evaluate the reliability impacts of adopting a \$250/MWh seller's bid cap. In sum, SDG&E has not met the burden of showing that an immediate, universal bid cap on all potential sellers supplying energy and ancillary services into the PX and ISO markets is justified and in the public interest.⁶⁷

Another four months of extreme price volatility and the collection of significant economic rents by market sellers would pass before the FERC would revisit the price cap issue. As we shall see, when the FERC addressed this issue, it did so in a manner that actually drove prices in the market *up*.

B. The December 15 Order and Institution of "Soft" Price Caps

One can argue, in the FERC's defense, that despite emerging evidence of market manipulation, the price spikes of Summer 2000 could legitimately be blamed largely on an imbalance between scarce electricity supplies and a rising demand that reached its peak of roughly 50,000 megawatts during this hot summer season. However, as the Summer peak demand season gave way to the Fall where demand traditionally fell from 50,000 megawatts to under 40,000 megawatts, the wholesale generating market remained plagued by significant price volatility and price spikes. At this point, it should have been clear even to the FERC that there was certainly more going on in this market than the lack of adequate supplies.

The December 15 Order⁶⁸ was a response to this ongoing price volatility. The irony of this order was that it not only failed in its attempt to curb price volatility. It also wound up encouraging increased "strategic gaming" of the market even as it became a prime contributor to soaring prices.

In seeking to explain the crisis since August, the December 15 Order cited a shorter list of three factors from the FERC's Staff Report.⁶⁹ The first was "increased demand due to unusually high temperatures and a scarcity of available generation."⁷⁰ While this was a major factor during the Summer of 2000, it was clearly not the dominating factor by December.

The second factor noted by the FERC was the vulnerability of the wholesale market buyers to an over-reliance on the spot market. The FERC would address this issue *not* by changing the bizarre set of auction rules that allowed the spot market to be gamed. Rather, it would eliminate the requirement that "investor owned utilities . . . sell all of their generation into, and buy all of their generation from, the California Power Exchange."⁷¹

The FERC's clear strategy was to allow the utilities to meet their needs through longer term contracts so as to "eliminate undue reliance on the spot

67. *San Diego Gas I*, *supra* note 57, at 61,606 (emphasis added).

68. *San Diego Gas II*, *supra* note 17.

69. *Id.* at 61,984.

70. *San Diego Gas II*, *supra* note 17, at 61,984.

71. *Id.* at 61,982.

market.”⁷² It is important to note that the FERC viewed this particular mitigation measure as its “fundamental remedy” and primary price mitigation rather than the price caps that other commentators were clamoring for.⁷³

Third, perhaps as the reason why the FERC would not rely on price caps, “the Staff Report noted evidence . . . that sellers had the potential to exercise market power”⁷⁴ but, importantly, the Staff Report also indicated there was “insufficient data to make determinations about the exercise of market power by individual sellers.”⁷⁵

This last conclusion of “insufficient data” was critical because it would lead the FERC to a set of recommendations that would actually allow the exercise of market power to flourish. The conclusion was also sharply at odds with the views of FERC Commissioner Massey.

Prices have not been just and reasonable, and market power has been exercised As a result, the transfer of wealth from purchasers of power to sellers has been absolutely staggering and completely defies the public interest I disagree with the order’s language that there is insufficient evidence on the record before us to find specific instances of the exercise of market power.⁷⁶

Despite Massey’s complaints, the FERC staff and a majority of the commission felt free to eliminate all “hard” price caps in the California market.⁷⁷

On December 8, 2000, in one of the defining moments of the crisis, the ISO abandoned its hard price cap, no doubt in anticipation of the FERC order.⁷⁸ With the December 15 Order, the FERC instead instituted a \$150 “breakpoint.”

Sellers bidding at or below this breakpoint will receive the market clearing prices, but not more than \$150 per MW. If sellers bidding above this breakpoint are needed to clear the market, they will receive their actual bids. However, they will be subject to certain reporting and monitoring requirements to ensure that market power is not exercised and to ensure that rates remain just and reasonable. Certain refund conditions will continue to apply; however, unless the Commission issues written notification to a seller that its transaction is still under review, refund potential on a transaction will close after 60 days.⁷⁹

While the FERC went to great lengths to deny its “breakpoint” mechanism was a price cap in any way, this mechanism was referred to precisely as such by both the media and most other stakeholders.⁸⁰ Specifically, it was characterized

72. *San Diego Gas II*, *supra* note 17, at 61,992.

73. *Id.* at 61,994.

74. *San Diego Gas II*, *supra* note 17, at 61,984.

75. 93 F.E.R.C. ¶ 61,294, at 61,984 (emphasis added).

76. *Id.* at 61,984.

77. By way of history, while the FERC had demurred on the price cap issue in its August 23 Order, during the Fall of 2000, the ISO had declared such a “hard” price cap of \$250/MWH. The cap barred generators from submitting bids greater than a certain fixed price. In this regard, it should be quickly noted that this hard cap was for power that would likely be generated, on average, for less than \$100/MWH and at a marginal cost that nowhere ever approached the cap price for the vast majority of plants. Thus, even under the ISO’s hard cap, substantial economic rents could still be captured.

78. Press Release, California ISO, California ISO Files Emergency With FERC To Deal With Electricity Supply Crisis (Dec. 8, 2000), available at <http://www.stoft.com/e/lib/papers/CA-ISO-2000-Implements-Soft-Cap.pdf> (last visited Mar. 23, 2003).

79. *San Diego Gas II*, *supra* note 17, at 61,997.

80. See generally *Current State of Affairs in California Wholesale Electric Markets* (McDermott, Will &

as a “soft” price cap. This is because it did not bar a generator from submitting a bid greater than the cap, it merely required them to confidentially report their incremental generation costs, as well as any opportunity costs they considered in developing the bid.⁸¹ This reporting requirement was generally interpreted as simply a *pro forma* one that would likely not lead to any substantial refunds.

As soon as the FERC’s soft cap was in place, electricity prices soared, hitting \$1,500/MWH within the week. As the Chairman and CEO of Southern California Edison Stephen E. Frank lamented: “[the] FERC has worsened the situation in the state by replacing our existing hard cap with a so-called soft cap. . . . We’ve had [the] FERC’s soft cap in place for this past week, and prices skyrocketed.”⁸²

It should also be noted at this point that the FERC clearly did not see that California Governor Gray Davis would be exactly right when he expressed his opposition to the FERC’s remedy. In ignoring the Governor and rejecting any hard price caps in favor of other mitigation measures, the FERC cast its lot with market forces.

Many buyers in this market ask us to impose some form of price control. . . . We carefully considered these proposals and recognize that they have the appeal of potentially lowering prices in the near term. However, the devices are arbitrary and have unforeseeable economic consequences, often to the detriment of consumers on the electric system. In a practical sense, they are a form of cost based regulation and lowering prices in the spot market will again create biases between markets and, further, not provide sufficient incentives for building new generation resources that are critical for California.⁸³

It is clear from this statement that the FERC, early on, chose to give greater weight to long-term questions of economic efficiency rather than shorter term issues of equity and economic disruptions.

C. The June 19, 2001 Order Brings Comprehensive Mitigation

The FERC’s issuance of its June 19 Order is notable for at least three reasons. The first is that the FERC still “didn’t get it” in the sense that it clung to the notion that its December 15 order “worked.” A second and related reason is that its latest round of mitigation remedies were a tacit acknowledgement of the abject failure of the remedies instituted in the disastrous December 15 order. The third is that even in seeking to “do the right thing” – albeit after the crisis had largely subsided – the FERC’s free market ideology still led it to favor policies which continued to sanction a large redistribution of wealth from consumers to producers.

Regarding the first point, we merely have to quote the FERC in its order when it makes the claim that the order “helped turn the tide.”⁸⁴

Emery, Chicago, IL), Jan. 2001, available at http://www.mwe.com/index.cfm/fuseaction/publications.nidetail/object_id/C5203D40-6987-44B1-BB99-8241D626380 (last visited Mar. 23, 2003).

81. The generators were subject to a refund if the costs were found to be unjust and unreasonable.

82. *FERC’s Power Orders Rile California*, UNITED PRESS INT’L (Dec. 16, 2000).

83. *San Diego Gas II*, *supra* note 17, at 61,997.

84. *San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Servs.*, 95 F.E.R.C. ¶ 61,418 (2001) [hereinafter *June 19 Order*].

The effects of the price mitigation directed by our December 15 Order and the actions of the State of California in moving to longer-term contracts and conservation efforts have had a significant dampening effect on prices.⁸⁵

These claims are debatable, but even if the FERC is correct, its December 15 order “worked” only after California had to endure another three months of rolling blackouts and tens of billions of dollars more collected by market sellers in economic rents.

As for the FERC’s tacit acknowledgement of failure, the June 19 order *finally* instituted a hard price cap at the Federal level. Specifically, the order imposed a price cap in which prices “cannot exceed the ISO’s hourly market clearing price . . . [when] reserves fall below 7 percent in California.”⁸⁶ In using a reserve margin of 7 % to trigger the cap, the FERC acknowledged that as reserves tighten, the ability of market participants to exercise market power increases. In specifying the ISO’s hourly market clearing price, the FERC assumed that this would, at a minimum, approximate the marginal cost of production for the least efficient plant and therefore be “market based.”⁸⁷

In addition, the order instituted such caps on a 24/7 basis in that it also required that the price cap be applicable in “non-reserve deficiency hours as well.” During such hours, the cap would be set to “85% of the highest ISO hourly market clearing price established during the hours when the last Stage 1 [emergency in which reserve margins fell below 7% was in effect].”⁸⁸

Perhaps most telling of the agency’s December 15 myopia, the FERC also imposed the price caps *region-wide*. These regional caps were expressly put into place to end to the practice of “megawatt laundering” in which merchant generators would export power from California to other states in the West and then re-import the power to evade state price caps.⁸⁹ The FERC had been repeatedly warned about this, and such megawatt laundering was rampant through much of the crisis. It was a direct result of the FERC’s refusal to impose regional caps, and this megawatt laundering also created severe dislocations not just in the California market but throughout the broader Pacific Northwest.

Finally, the order re-affirmed a “must run” requirement that it had imposed in its December 15 order: “. . . all public and non-public utilities who own or control generation in California must offer power in the ISO’s spot markets.”⁹⁰ Such a must-run requirement was crucial to addressing the problem of merchant generators who chose to artificially restrict supply into the market to drive up price—a point we shall return to in the next lesson.

For now, by way of summary and put in the simplest terms, *if the FERC had instituted all of the provisions of its June 19, 2001 order on December 15, 2000, most of the problems that California would face in the ensuing six months would never have occurred.*

85. *Id.*

86. *June 19 Order*, *supra* note 84, at 62,568, 62,546.

87. The clearing price could certainly be above marginal cost and still allow the collection of economic rent but never below it.

88. *June 19 Order*, *supra* note 84, at 62,548

89. *Id.* at 62,547.

90. *June 19 Order*, *supra* note 84, at 62,549.

As to why the FERC was so resistant to a regulatory solution, some commentators have speculated that, in the spirit of Nobel Laureate George Stigler's aforementioned "capture theory of regulation," the FERC was merely doing the bidding of the rent-seeking special interests that had commandeered the bureaucracy. We are not prepared to cast our lot with this dark vision. We will, however, speculate that, based on the FERC's own justifications for its orders, that the agency was a captive of its own free market ideology and that this ideology led the FERC to a monumental mistake, which was to seek to promote the longer term goal of a deregulated electricity market, the agency was incapable of recognizing the incredible magnitude of the short run disruptions in California. The ultimate irony may well be that the FERC's inactions in the short term may well have done considerable harm to the longer run evolution of deregulation.

D. Cost-based Versus Market-based Caps and Economic Rent

An analysis of "market based" versus "cost based caps" in the June 19 Order is also useful because the choice of caps had a direct impact on the distribution of economic rents between consumers and producers. Even more important, *the methodology FERC used to calculate its market-based caps became the basis for the calculation of refunds for California* (as we will discuss in below.).

With a cost-based price cap, each generator's allowable price is set at his cost of production, including fuel, labor, and a reasonable return to capital. Each cap is therefore "customized" to a specific plant, with older, inefficient plants allowed to charge more than newer, more efficient ones.⁹¹

The virtue of such a cap is that it eliminates the collection of *any* economic rent by the producers – including infra-marginal rents. They simply earn a fair profit based on their cost structure – but nothing more. If the cap is set properly, each producer will have an appropriate incentive to produce and the cap will not lead to a restriction in supply. The presence of such a cap will deter longer-term entry into the market so there is a question of long term efficiency.

The "market-based" cap implemented by FERC was intended to address this longer-term issue. However, it arguably did so at the expense of significant short run distributional considerations. Both the ISO and a coalition of Western Governors representing California, Washington, and Oregon proposed "cost-based" price caps.⁹² FERC rejected this proposal in favor of its market-based approach.⁹³

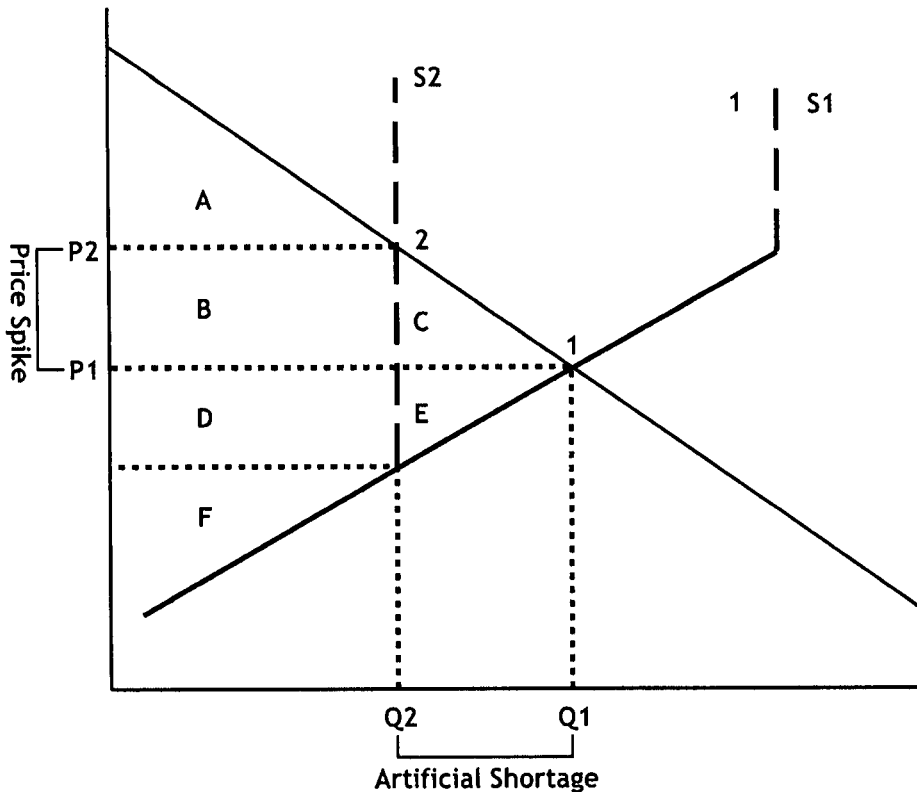
91. Thus, for example, a newer, highly efficient plant generating power at a nickel per kilowatt hour would collect a nickel. The oldest, least efficient plant that generated power for 20 cents would be allowed to collect 20 cents.

92. Press Release, California Office of the Governor, Western Governors Ask Federal Regulators for Power Price Caps (Mar. 12, 2001), available at http://www.governor.ca.gov/state/govsite/gov_htmldisplay.jsp?BV_SessionID=@@@1025823370.1049844546@@@&BV_EngineID=fadcgllkgjeibemgcfkmchcog.00ID=13569&sTitle=GOVERNOR+DAVIS,+WESTERN+GOVERNORS+ASK+FERC+%0aFOR+CAPS+ON+WHOLESALE+POWER+COSTS%0a&sFilePath=/govsite/press_release/2001_03/20010312_PR01089_FERC_joint_letter.html&sCatTitle=Press+Release (last visited Mar. 23, 2003).

93. Under this definition, if a producer with a newer vintage plant with greater efficiencies can generate

Let's look now at the distributional implications of cost-based versus market-based caps by examining Figure Two, which illustrates the case which we believe most closely approximates the market activity between our second time interval in the crisis from October 2000 to April of 2001.

Figure Two: The Distributional Implications of
Cost-based Versus Market-Based Caps



In the figure, we see that a competitive market, absent market power, would have resulted in a price of P_1 and an output of Q_1 at Equilibrium Point 1. However, in the case where suppliers artificially constrain output to Q_2 , price rises to P_2 and we have an artificial shortage in the market equal to Q_1 minus Q_2 .

Table Two summarizes the distributional implications of the exercise of market power along with the choice of cost-based versus market-based caps when market power is exercised. These distributional implications can be monetized using the geometric shapes from Figure Two (*i.e.*, the rectangles B

a KWH for a marginal cost of 10 cents and can sell it for 35 cents—as producers in the West had been doing—the producer can extract 25 cents of economic rent from consumers.

and D and the triangles A, C, E, and F).

Table Two: Distributional Implications of Market Power and Market-Versus Cost-based Price Caps

	Competitive Outcome	Market Power Outcome	Market-based Caps Under Market Power Outcome	Cost-based Caps Under Market Power Outcome
Consumers	A, B, C	Loses B, C	A,B,C	A,B,C plus captures all infra-marginal rents D,E,F
Producers	D, E, F	Gains B, Loses E	D,E,F	Accounting profits positive but economic rents are zero
"Society"	A,B,C,D,E,F	Loses C,E as "Dead Weight Loss"	A,B,C,D,E,F	A,B,C,D,E,F

From the table and referring back to Figure Two, we see that in the competitive outcome in Column Two, consumers capture a "consumer surplus" equal to A plus B plus C while producers capture a "producer surplus" of D plus E plus F. In this scenario, we have an efficient market where society as a whole enjoys all the consumer and producer benefits A through F.

In the market power outcome in Column Three, however, we see that consumers lose the rectangle B to producers while that portion of the consumer surplus in triangle C is lost to society in the form of a "dead weight" efficiency loss. At the same time, while producers gain the rectangle B from consumers, they lose the, albeit smaller, triangle E of producer surplus, which is lost to society as well.

In Column Four are the distributional implications of market-based price caps in Column Four. Here, we see that such caps restore the distributional *status quo ante* of a competitive market for consumers, producers, and society. In contrast, with cost-based caps in Column Five, consumers are able to not only keep the original consumer surplus of A, B, and C, but they also capture the "infra-marginal" rents D, E, and F of producers. In this account, suppliers still earn a normal economic profit reflected in positive accounting profits, but economic profits are driven to zero.

One might conclude from Table Two that market-based caps are more "fair" than cost-based caps because they return the market to the *status quo ante*. Such a conclusion would, however, ignore the deterrent value the *threat* of cost-based caps might have on producers considering the exercise of market power; this threat being not only price caps but the loss of infra-marginal rents as well.

XII. THE IMPORTANCE OF ENFORCEMENT AND DETERRENCE

Any system of electricity deregulation must have a clear set of rules that, if followed, will lead to the desired result of a competitive market functioning efficiently in both the short and long run, so as to provide the lowest possible prices for reliable service to consumers, a fair and reasonable return to sellers, and a stable energy infrastructure for the broader economy and society.

Any system of deregulation must also have a set of clearly understood “punishments” to mete out should market participants fail to follow the rules. Such justice must be meted out both swiftly and fairly. The punishments, which may include both civil and criminal as well as both compensatory and punitive damages, must be of sufficient magnitude to deter future market participants to break the rules or the law.

These two principles may seem clear in theory. But what should regulatory and legal authorities do with regard to enforcement and deterrence when at least part of the problem with dysfunction in the market is the result of *legal* gaming of the system? In fact, in the California case, we see four very clear problems that arose with the markets, each of which arguably demanded a different response from the central regulatory authority. The first two are:

- Participants exploited deep design flaws in the electricity auction markets to legally game the system. The various games all involved some form of strategic bidding coupled with the legal withholding of power from the market. This legal gaming allowed *all* sellers into the market to extract significant economic rents from the system.
- Participants seeking to exercise market power artificially and illegally constrained supply by withholding power from the market under guises such as “routine maintenance” or “forced outages.” This likewise allowed *all* sellers into the market to extract significant economic rents from the system. It also destabilized the system and contributed to supply disruptions.

In addition to this legal and illegal activity in the electricity market, we have also discussed a third source of market instability, namely, the exercise of market power in the related natural gas pipeline market.

Finally, there is a fourth problem that will naturally arise because of the “boom-bust” nature of the electricity generating cycle that we discussed in lesson one. In particular, in the later stages of the boom cycle when supply and demand becomes unbalanced, market participants may be able to capture large economic rents. In such a case, the question becomes whether it is appropriate for market participants to keep such rents or whether the collection of such rents violate the standards of “just and reasonableness” set forth in the Federal Power Act (FPA).

In the remainder of this section, we will examine how the regulatory and legal authorities have responded to each of these four situations in California to date. We will also provide comment on whether the response has been appropriate within the context of our initial observation in this section about the need for a system of swift and sure punishment with sufficient deterrent value.

A. Remedies to Address Legally Gaming the System

In Lesson V, we discussed how coalition-building on the stakeholder boards set up to design, implement, monitor, and enforce the market rules arguably led to a “capture” of the process by several of the stakeholders. We have also pointed out in Lesson IV the various flaws in the auction market that allowed market participants to strategically game the system through the bidding process.

In assessing this kind of “legal gaming,” the question here must be whether the resultant rates meet the just and reasonable standards of the Federal Power Act. In this regard, the gamers might set forth the obvious argument that “we stole the money fair and square so we should be allowed to keep it.” The problem, however, with such an approach is that it provides a strong incentive not only for the strategic gaming of any system but also for the very political manipulation that created the flawed game to begin with.

B. Remedies to Address Illegally Gaming the System

At the time of this writing, it is increasingly clear that there was at least some illegal withholding of power from the market to drive up price.⁹⁴ The big question that remains that continues to be explored in a number of evidentiary proceedings is the *extent* to which such power was withheld.

In this regard, a report by the California Public Utilities Commission (CPUC) found that during the crisis at least five independent energy companies that were capable of producing power did not do so and that this contributed to the “unconscionable, unjust and unreasonable electricity price spike that California experienced during the energy crisis.”⁹⁵ In addition to these observations by the CPUC, we offer merely on an illustrative rather than an exhaustive basis a number of other data points worth noting on the illegal gaming front.

On May 28, 2002, in a response to a the FERC data request, PacifiCorp indicated that it may have been used as an intermediary by a number of companies to employ the aforementioned practice of “megawatt laundering.” According to PacifiCorp, such behavior took place over a 5-month period in 2000 and involved 767 deals totaling 40,376 MWH.⁹⁶

On July 2, 2002, the ISO announced penalties of \$251 million imposed on more than two dozen merchant generators for withholding power from the grid during the state’s electricity crisis in 2000 and 2001. On January 6, 2003, the ISO released a previously confidential report revealing more possible gaming⁹⁷ involving Enron, Coral Energy, Semptra and BC Hydro as possible perpetrators. On February 4, 2003, Industrial Information Resources, a Houston-based market

94. *Regulation’s Rationale*, *supra* note 3, at 535-36.

95. California Public Utilities Commission, *Report on Wholesale Generation Investigation*, 12-13 (Sept. 2002), available at <http://www.cpuc.ca.gov/published/Graphics/19417.pdf> (last visited Mar. 23, 2003).

96. For details see generally *PacifiCorp Fingers Five For ‘Ricochet’ Trading*, ENERGY DAILY (May 28, 2002).

97. Report by California ISO, Department of Market Analysis, *Analysis of Trading and Scheduling Strategies Described in Enron Memos* (Oct. 4, 2002), available at <http://www.caiso.com/docs/2003/01/06/2003010617125814460.pdf> (last visited Mar. 23, 2003).

research company, was subpoenaed by Attorney General Lockyer for its records relating to the energy crisis.⁹⁸ The theory being pursued is that "information intermediaries" may have been responsible for providing the necessary collusive information. On January 31, 2003, the FERC approved a \$13.8 million settlement with Reliant Energy over the physical withholding of power in California.⁹⁹ California's governor called it "insulting" and a "slap on the wrist."¹⁰⁰

These cases are just a sampling of the number of ongoing investigations. In light of the emerging evidence and harkening back to our previous lesson regarding the need for a fair and competent referee, the FERC is arguably "guilty" of at least two regulatory failures.¹⁰¹ The first failure is a result of the FERC's dilatory justice. Many investigations remain in progress, and there is nothing approaching a light at the end of the resolution tunnel. The second and perhaps even more pertinent failure is that when the FERC has chosen to mete out punishment, its sanctions have arguably not cleared the threshold of adequate deterrence of future illegal acts.

XIII. THE REFUND ISSUE

It's not just that in specific instances of collusive behavior that the FERC has acted in a manner inconsistent with an appropriate threshold of deterrence. It is also within the context of the FERC's broader actions on the whole question of *refunds* to the state of California that we see a system that must inevitably fail in providing adequate deterrence to illegal, or *legal*, manipulation of the system.

In this regard, the direct economic cost to California ratepayers and taxpayers of the crisis is estimated to be on the order of \$40 billion for the period that lasted from Summer 2000 into the Spring 2001.¹⁰² This can be estimated with a first order approximation by comparing the state's electricity bill of \$7 billion in 1999 to the subsequent bills in the two ensuing periods. According to state officials, in both 2000 and 2001, California's electricity bill rose to \$27 billion per year. During this period there was no substantial increase in power demand or sales.

Additionally, the state has committed to \$43 billion in long-term energy purchase contracts that are roughly twice the actual unmanipulated market value of the electricity.¹⁰³ These contracts were signed at the height of the crisis in a

98. Nancy Rivera Brooks, *California Subpoenas Electricity Data Firm: Investigators say the service's outage reports could have helped sellers manipulate the market*, L.A. TIMES, February 6, 2003.

99. Order Approving Stipulation and Consent Agreement, Fact-Finding into Possible Manipulation of Electric and Natural Gas Prices, 102 F.E.R.C. ¶ 61,108 (2003).

100. Tobey Eckert, *Reliant to Pay in Power Price Manipulation*, THE SAN DIEGO UNION-TRIBUNE, Feb. 1, 2003, available at http://www.signonsandiego.com/news/business/20030201-9999_1b1reliant.html (last visited Mar. 23, 2003).

101. The concept of market failure is useful to describe the various ills that can afflict an unregulated market. The companion concept of government or regulatory failure is equally useful to describe the flaws of government intervention into the market to correct failures.

102. *Regulation's Rationale*, *supra* note 3, at 522-23.

103. California Pub. Util. Comm'n, *PUC Section 206 Complaint Fact Sheet* (February 24, 2002) available at http://www.cpuc.ca.gov/PUBLISHED/NEWS_RELEASE/13481.htm (last visited Mar. 23, 2003);

“panic” atmosphere fueled by soaring prices and supply disruptions. These contracts have imposed another \$21 billion in excessive charges that can be added to the estimated \$40 billion in direct costs attributable to the crisis.

From this perspective, one could reasonably argue that, under the standard of “just and reasonable” set forth by the Federal Power Act, the state of California is entitled to refunds approaching \$40 billion and certainly in the tens of billions of dollars range – depending on an ultimate determination of the role of the exercise of market power in driving up prices.

One can further argue that since the over-priced long-term contracts may have been entered into by the state of California under the duress of the unlawful exercise of market power, the state has a legitimate claim to void those contracts and thereby avoid the over-payments that will be imposed in the coming years.

Finally, one can even credibly argue that to the extent that the illegal gaming of the natural gas market led to overcharges in the electricity market, and therefore the perpetrator, El Paso, should be liable for a portion of those overcharges as well.

A. The Refund History

In November 2000, the FERC found that:

[T]he electric market structure and market rules for wholesale sales of electric energy in California are seriously flawed and that these structures and rules, in conjunction with an imbalance of supply and demand in California, have caused, and continue to have the potential to cause, unjust and unreasonable rates for short-term energy.¹⁰⁴

It initiated a proceeding to determine whether the rates being charged were unjust and unreasonable.¹⁰⁵

In its June 19, 2001 order, the FERC announced that it would hold a settlement conference before an Administrative Law Judge (ALJ) to try and resolve the refund issue. This conference was convened from June 25 to July 9, 2001.

The settlement conference between the various parties failed to yield any resolution. It did, however, set the stage for a set of recommendations issued by FERC ALJ, Curtis Wagner.¹⁰⁶ In that communication, Wagner acknowledged that the refunds due were “very large,” but to Wagner, “large” appears to be a very relative term.

That very large refunds are due is clear. In fact, the Commission so found in its June 19, 2001, Order. While the amount of such refunds is not \$8.9 billion as claimed by the State of California, they do amount to hundreds of millions of dollars, probably more than a billion dollars in an aggregate sum.¹⁰⁷

see also, *Regulation's Rationale*, *supra* note 3, at 522. The excess long-term costs represents about six times the revenue earned when the utilities sold many of the generating plants from which the state is now buying power. *Id.*

104. *San Diego Gas & Elec. Co. v. Sellers of Energy and Ancillary Servs.*, 93 F.E.R.C. ¶ 61,121 (2000).

105. *Id.*

106. *San Diego Gas & Elec. Co. v. Sellers of Energy and Ancillary Servs.*, 96 F.E.R.C. ¶ 63,007 (2001).

107. *Id.*

Wagner urged the FERC to settle the issue through an evidentiary hearing. In response, on July 25, 2001, the FERC directed a new ALJ to adjudicate the matter through a hearing.¹⁰⁸ Importantly, the order also established “the scope of and methodology for calculating refunds.”¹⁰⁹

On December 12, 2002, the new ALJ, Bruce L. Birchman, issued his proposed findings. To both the astonishment and outrage of California politicians and regulators, rather than find that California was owed a substantial refund, Birchman found that rather than the suppliers owing the state, the state actually owed the generators a net \$1.2 billion.¹¹⁰

XIV. THE FERC BRACKETS CALIFORNIA’S REFUNDS

In examining the ALJ’s methodology and its legal and economic rationale, there were at least five steps taken by the ALJ that significantly reduced the refund amount due the state of California.

First, the ALJ truncated the refund period. It ran only between October 2000 and July 2001. By truncating the period, billions of dollars in overcharges incurred by state and its utilities between May and September of 2000 were dropped from the refund equation.

Second, and perhaps most important, the ALJ chose a market-based measuring stick for the refunds rather than a cost-based one.

[T]he Chief Judge noted ‘[t]he June 19th Order established a mitigated price based upon the marginal cost of the last unit dispatched to meet load in the CAISO’s real-time market.’ The Chief Judge ‘recommend[ed] that the methodology set forth in the June 19th Order be used with the modifications discussed below in order to calculate any potential refunds that may be due to customers in the CAISO’s and Cal PX’s spot energy and ancillary service markets.’¹¹¹

This approach was consistent with the market-oriented philosophy of the FERC that was analyzed in the FERC’s choice of price caps in the previous section. However, in choosing to use the same metric for any refunds, this choice had an enormous distributional implication.

Third, the ALJ excluded the DWR from the list of injured parties due a refund as a non-jurisdictional entity. By way of historical background, on January 17, 2001, California Governor Gray Davis stepped in with an emergency order that directed the DWR to assume responsibility for the procurement of a major portion of power for the state’s three major utilities, two of which were in desperate financial straits.¹¹² The DWR assumed this responsibility for a number of months. It used over \$6 billion from the state’s general revenue fund to purchase power. The practical effect of excluding the DWR was to drop these substantial power purchases from the refund scrutiny universe.

Fourth, the ALJ took the market price data as “exogenous.” That is,

108. 96 F.E.R.C. ¶ 61,120.

109. *Id.* at 61,499.

110. *San Diego Gas & Elec. Co. v. Sellers of Energy and Ancillary Servs.*, 101 F.E.R.C. ¶ 63,026 (Dec. 12, 2002).

111. *Id.* at 65,138.

112. The Governor’s Proclamation was attached as Appendix A to CPUC Decision (D.) 01-01-061.

Birchman did *not* take into account whether the observed market prices were the result of any illegal actions that resulted in the artificial withholding of either generating capacity or natural gas supplies. This was despite a growing body of evidence of such illegal acts. If, however, observed market prices were driven by the exercise of market power obtained illegally, it is difficult to justify using those observed prices as the refund benchmark.

Fifth, and related to this issue, the ALJ rejected the advice of the FERC staff that the natural gas prices, which were part of his refund formula, should be based on a different set of data. He also relied on data from suppliers, which was subsequently found to be misleading.

At the time of this publication, the FERC has yet to issued its final ruling on the refund issue. In addition, there are pending court cases challenging the FERC's decisions not to make the suppliers short terms sales to the DWR subject to refund and considering whether the FERC can order refunds before the truncated refund period.

However, based thus far on the FERC's rulings and actions, it seems reasonable to conclude that the FERC's conduct in this matter would hardly seem to constitute a significant deterrent to future market participants intent on gaming the market.

A. The Long Term Contract Issue

In an additional proceeding, the state of California has also asked the FERC to abrogate over thirty long-term contracts the state had entered into during the height of the energy crisis panic.¹¹³

The Complainants claimed that the prices, terms and conditions of these contracts are unjust and unreasonable and, to the extent applicable, not in the public interest. The Complainants also alleged that these sellers obtained the prices, terms, and conditions in the contracts through the exercise of market power in violation of the Federal Power Act (FPA), and the sellers' actions are causing injury to the citizens and ratepayers of California.¹¹⁴

At the time of this publication, the issue remains unresolved. However, it is worth noting that the FERC has already ruled that it will require a much higher burden of proof if it is to take this action:

We take the opportunity to emphasize that the burden of showing that a contract is contrary to the public interest is a higher burden than showing that a contract is not just and reasonable. Our review of the record developed thus far indicates that parties have focused at times on the 'just and reasonable' standard of review, rather than the 'public interest' standard of review. . . . The fact that a contract may be found to be unjust and unreasonable under Sections 205 or 206 of the Federal Power Act does not in and of itself demonstrate that the contract is contrary to the public interest under the Supreme Court cases.¹¹⁵

113. On February 25, 2002, the Public Utilities Commission of the State of California (CPUC) and the California Electricity Oversight Board (CEOB) (jointly referred to as "Complainants" or "the State") filed separate, but virtually identical, complaints seeking to modify over thirty contracts. *Public Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 102 F.E.R.C. ¶ 63,013 (Jan. 16, 2003).

114. 102 F.E.R.C. ¶ 63,013, at 63,015.

115. *Public Utils. Comm'n of Cal. v. Sellers of Long-Term Contracts to the Cal. Dep't of Water Res.*, 101

The broader lesson of this section is this: any system of deregulation must have clear rules that protect the market from the undue exercise of market power. If those rules are broken, the punishment meted out must be swift, fair, and above a threshold sufficient to provide adequate deterrent to any future unlawful or inappropriate behavior.

In this regard, in instances of legal gaming of the market or in the presence of a supply-demand imbalance that is caused by the boom-bust nature of the power plant cycle, it is appropriate for the central regulatory authority to adopt mitigation measures, which prevent the collection of significant economic rents. In the presence of illegal activity, the central regulatory authority must also consider both compensatory and punitive damages, if a credible threshold of deterrence is to be met.

Congress could create stronger deterrents to anti-competitive behavior, market manipulation, and other violations of the FPA and Natural Gas Act (NGA), by adding or increasing civil and criminal penalty authority under those statutes. Currently, FPA section 316A provides for civil penalties of up to \$10,000 per day for violations of limited sections of the FPA (Sections 211, 212, 213 and 214). These penalties could be broadened to all sections of the FPA and increased significantly. The NGA contains no provision to allow the Commission to impose civil penalties. The NGA should be modified to give FERC this authority. As to criminal penalties, I support increasing the penalty authority under the FPA and the NGA from the current \$5,000 level to \$1 million and increasing the potential prison term from two to five years. For a criminal violation of the Commission's rules or orders under the FPA or NGA, I support increasing the penalty from \$500 per day to \$25,000 per day.¹¹⁶

XV. CONCLUSION

The path of deregulation is fraught with a set of dangers that before the California conflagration were vastly underestimated and not well understood by the majority of policymakers, at least those policymakers outside the very small sphere of regulatory and energy economists, lawyers, and engineers.

Now that these dangers are better understood, it would be unfortunate if the ever-applicable advice of the philosopher Santayana: "Those who cannot remember the past are condemned to repeat it" was not followed.¹¹⁷ It is to the learned remembrance of the mistakes of California that must serve as lessons for those policymakers who continue to participate in the deregulation debate.

FERC ¶ 61,293, 62,175 (Dec. 17, 2002).

116. Testimony of Pat Wood, III, Chairman, Federal Energy Regulatory Commission Before the Committee on Governmental Affairs United States Senate, November 12, 2002, p. 13, *available at* <http://www.ferc.gov/news/congressionaltestimony/Wood-11-12-02.pdf> (last visited Apr. 2, 2003).

117. GEORGE SANTAYANA, *THE LIFE OF REASON: REASONS IN COMMON SENSE* 284 (Prometheus Books May 1998) (1905).