

CAN ENERGY MARKETS BE TRUSTED? THE EFFECT OF THE RISE AND FALL OF ENRON ON ENERGY MARKETS

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I. INTRODUCTION

“Greenspan Says Enron Cure Is In Market, Not Regulation.” (Headline)

Mr. Greenspan defended the current approach to corporate governance, with its reliance on trust in the chief executive, as the best available.

New York Times, March 2002 (four months after the Enron bankruptcy).¹

“The problem with capitalism is capitalists; the problem with socialism is socialism.”

Willi Schlamm, reformed German Communist, as quoted in a Wall St. Journal editorial in January 2002 that continues:

“[The Enron scandal] is a problem for anyone who believes in free markets.”²

The end of the Cold War signaled the “end of history,” according to Francis Fukuyama. Human progress had culminated in the triumph of a universal capitalistic and democratic order. With the demise of Marxist social engineering, Fukuyama next sought to explain what made some capitalistic societies more productive and secure than others. The answer: Trust. Trust is “the expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms”³ Trust is the cultural capital that enables a society to create large, private business organizations rather than remain dependent on smaller economic entities formed along kinship ties. As Nobel laureate Kenneth Arrow has written:

[T]rust is an important lubricant of a social system. It is extremely efficient; it saves a lot of trouble to have a fair degree of reliance on other people’s word. Unfortunately, [trust] is not a commodity which can be bought very easily. If you have to buy it, you already have some doubts about what you’ve bought. Trust and similar values, . . . [like] truth-telling, are . . . goods, they are commodities;

1. Richard W. Stevenson, *Greenspan Says Enron Cure Is in Market, Not Regulation*, N.Y. TIMES, Mar. 27, 2002, at C5.

2. Editorial Board, *Enron’s Sins*, WALL ST. J., Jan. 12, 2002, at A10.

3. FRANCIS FUKUYAMA, TRUST 26, 30 (1995).

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they have real, practical economic value; they increase the efficiency of the system But they are not commodities for which trade on the open market is technically possible or even meaningful.⁴

Trust is also the most fragile of all forms of human and physical capital. Once dissipated, it may take decades to replenish, if indeed it can be renourished at all.⁵

When Enron, the seventh largest company in the Fortune 500 in 2001, collapsed virtually overnight, destroying billions of dollars of shareholder value, trust in capital markets fell, too. The steady, toxic drip-feed of revelations of corrupt accounting, executive greed, devious financing, and inept or absent regulatory policing exposed a web of conflict of interests permeating the corporate boardroom, Wall Street, and legislative halls. Trust in business executives, and the financial and accounting communities, plummeted. A 2002 poll showed only 16 percent of Americans trusted what any big company told them.⁶ The toxic revelations then spilled into the energy markets, when state and federal investigations of the California energy crisis found Death Star and Fat Boy as well as other games played by Enron and the new breed of energy traders and merchant generators that energy deregulation had birthed.

Much of the post-Enron flood of commentary and analysis has addressed the corporate governance aspects of Enron's fall—the causes, consequences, and reforms in the duties of corporate boards and the accounting profession in general. Yet, Enron was synonymous with energy trading in the new gas and electric markets that developed with the liberalization of these markets in the United States and abroad. Enron was ranked the most innovative company in the United States for six years in a row by *Fortune* magazine, due to the novel businesses it launched in energy trading and services during the 1980s and 1990s. In the

4. *Id.* at 151–52 (quoting KENNETH J. ARROW, *THE LIMITS OF ORGANIZATION* 23 (1974)).

5. FUKUYAMA *supra* note 3, at 321.

6. The Lord Browne of Madingley, Group Chief Executive of BP, Meeting America's Energy Needs, Address to the Houston Forum 9 (Aug. 1, 2002). A 1998 survey found that two-thirds of 160 chief financial officers of public companies had been asked by executives to misrepresent their companies' results. Twelve percent admitted to doing so. Alex Berenson, *The Biggest Casualty of Enron's Collapse: Confidence*, N.Y. TIMES, Feb. 10, 2002, Sec. 4, at 1. Sixty percent of business managers themselves say that business standards have dropped in the past twenty years. John Harwood, *Public's Esteem for Business Falls in the Wake of the Enron Scandal*, WALL ST. J., Apr. 11, 2002 (online). An astonishing 64 percent of executives said that they had been misinformed about the financial condition of a prospective employer. *LiarLiar!*, FORTUNE, May 26, 2003 at 44.

period since Enron declared bankruptcy on December 2, 2001, other companies that had entered the energy trading business, such as Dynegy, El Paso, Williams, Calpine, Mirant, and Duke, are struggling to survive. Many have seen their credit ratings reduced to junk bond status. They have quit the trading business and are rapidly selling their hard assets—their pipelines and power generating plants—to raise capital to bolster their balance sheets by reducing debt. Wholesale electricity trading volumes have plummeted on national exchanges. UBS Warburg, the large financial institution that bought Enron's most prized asset—its energy trading floor—has shuttered its Houston office. Passage of new retail electricity deregulation laws, a key driver of energy markets, has virtually halted at the state level, and seven of the 24 states that had passed deregulation laws in the mid- to late 1990s have delayed them, some for an indefinite time. The other 17 states have proceeded cautiously, usually with rate cuts and freezes in place to protect residential consumers and often with only a tepid response from residential consumers.⁷

Can energy markets be trusted? This article looks at Enron's role in the creation of these markets; the role of energy trading in the California crisis; the fall-out from the Enron scandal and the California-related investigations; the role of regulators in creating and restoring trust; and concludes with some thoughts about the future of energy markets today. The account is necessarily incomplete. The files of press accounts, government reports, agency dockets, economic analyses, and industry and trade association documents surrounding the Enron scandal, are massive. Many investigations have not yet concluded; discovery of documents is still ongoing in many lawsuits; new revelations appear almost daily, sometimes as part of settlements between companies and regulators and sometimes as part of guilty pleas by traders.

The reader must also be sternly warned: Many of the authors, both individual and institutional, of the reports and documents cited in this article have biases. Some biases might be easy to detect: California politicians certainly have a different view of many issues than federal regulators, and regulators certainly have different views than industry. Economists, who have played an enormous role in the deregulation debate, often

7. See Edward L. Flippen & Anne K. Mitchell, *Electricity Utility Restructuring After California*, 21 J. OF ENERGY & NAT. RESOURCES. L. 1, 9–11 (2003) (summarizing a report by the Energy Information Administration, *Status of Electric Industry Restructuring Activity* (Mar. 2002), available at http://www.eia.doe.gov/eneaf/electricity/chg_str/tab5rev.html).

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have an ideological bent that suffuses their writings with an embrace of markets as an abstract goal that seems difficult to match with the reality of market performance in the electricity sector. Even empirical evidence is difficult to assess because authors frequently present only those data which support their viewpoint and neglect to either explain the data's limitations or present other conflicting data that gives a more balanced measure of market performance. All of these biases make it tremendously difficult to determine what the "real story" is, particularly at this early date. But enough is known that the reader who tackles this article should be able to appreciate the contours of the battle between regulation, market power and competition in the newly created electricity markets, and the ability of regulators to protect the public interest in these markets.

II. WHAT ENRON DID: THE BEST OF COMPANIES—THE WORST OF COMPANIES

"Enronitis: The tally of firms tarred by Enronitis, a lack of trust, is growing by the day."

*U.S. News & World Report, February 2002.*⁸

"The dripfeed effect [of revelations of corporate sleaze] has been devastating for investors' confidence, helping to prolong the longest and deepest bear market since the second world war Enronitis has been a big contributor to the past year's economic ills in America and the rest of the world."

*The Economist, November 2002.*⁹

A. *In the Beginning: the Landscape Before Deregulation*

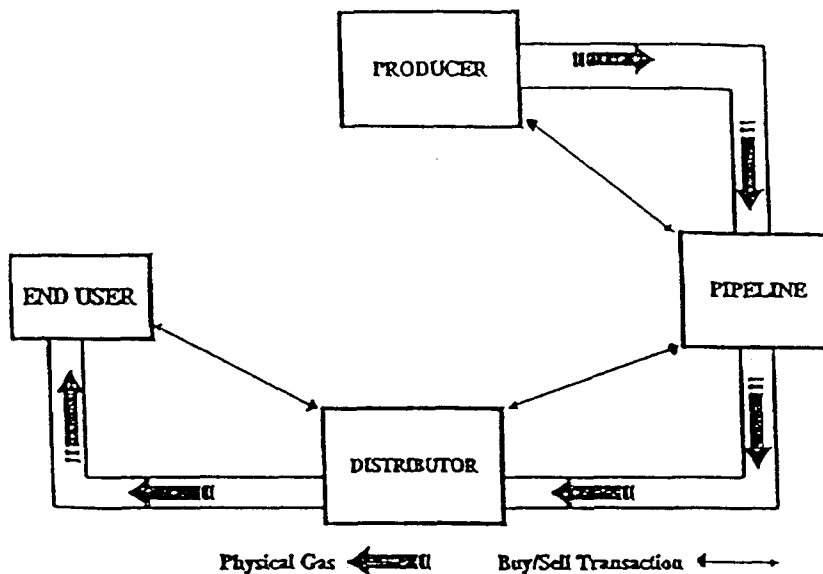
In 1971, Dr. Kenneth Lay, a Ph.D. economist, went to work for the Federal Power Commission, now called the Federal Energy Regulatory Commission, or FERC.¹⁰ At that time, the

8. Noam Neusner, Paul J. Lim, & James M. Pethokoukis, *Confidence Lost: Lenders and Investors Come Down with 'Enronitis'*, U.S. NEWS & WORLD REP., Feb. 18, 2002, at 32. Even the doughnut company, Krispy Kreme, felt the Enron virus. The company decided not to use an accepted financing technique called a synthetic lease on a new \$30 million plant after the lease was called an "off balance-sheet trick" and its stock plunged 10 percent. *Id.* 32–33 Synthetic leases are complex, and participants using them have often been confused by the accounting and have had to restate financial results. *Id.* at 33.

9. Editorial Board, *Investor Self-Protection*, THE ECONOMIST, Nov. 30, 2002, at 12.

10. ROBERT BRYCE, PIPE DREAMS 28 (2002).

natural gas pipeline industry looked like this:¹¹



Molecules of natural gas traveled from producer to end user in a completely regulated system. Both the price of natural gas sold by producers into the interstate market (from 1954 onward) and the transportation tariff for moving the gas in interstate pipelines were regulated by FERC on the basis of cost-of-service ratemaking. After lengthy hearings, FERC established prices and rates that would allow producers and pipeline owners to achieve a reasonable rate of return, say 13 percent, on their investment in gas wells and gas pipelines. Most gas was sold to local distributing companies at a city gate and the distributor then transported the gas in smaller pipelines to heat homes and stores and fuel furnaces and factories. The distributing company operated under the grant of a local monopoly franchise on this business, so its tariff was also regulated by the state's public utility commission to protect consumers.

It was a steady, if not boring, industry of regulators, cost accountants and lawyers who drafted fairly standardized, bilateral contracts between each participant in the market. Producers sold all of the gas from their wells to the pipeline closest to their field under long-term contracts of twenty years or

11. FRED BOSSELMAN, JIM ROSSI & JACQUELINE LANG WEAVER, *ENERGY, ECONOMICS & THE ENVIRONMENT* 435 (2000) [hereinafter cited as *EEE*].

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as long as gas was produced from the field. The gas in the pipeline was owned by the pipeline company, which then sold it to the distributor, again under long-term contracts. Thus, pipelines provided a “bundled” service to end users. The pipeline was both a gas merchant, buying and selling gas under long-term contracts, and a transportation service provider. In the decades of the 1930s through the 1950s, the pipeline was often both a monopsonist (the sole buyer in a field) and a monopolist (the sole seller to a distributing company or end user). Because the early pipelines, like railroads, had monopoly power, regulatory agencies were created to limit the rates they could charge so that consumers were protected from this market power.

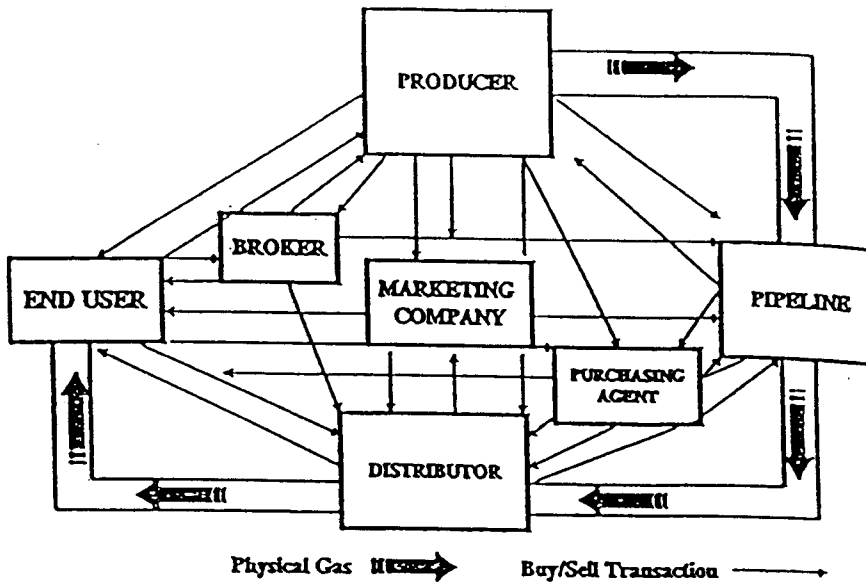
In contrast to the pipeline industry, the gas production sector—the drillers and producers who undertake the search for oil and gas in reservoirs thousands of feet under the earth’s surface—was composed of hundreds of participants, both large and small. Nonetheless, in 1954, in a poorly reasoned opinion, the U.S. Supreme Court held that the Natural Gas Act required the Federal Power Commission (now FERC) to regulate the maximum price of natural gas that producers could charge for sales of gas in interstate commerce.¹² Price regulation applied to a competitive industry predictably created shortages in natural gas by the late 1960s. When Middle East oil exporters embargoed sales of their crude oil to the United States in 1973 for geopolitical reasons, acute shortages of both oil and gas plunged the U.S. economy into the twin evils of stagnation and inflation, aptly named “stagflation.”

B. *Shortages and Inefficiency*

In 1978, Congress enacted a massive five-part National Energy Act to help the nation cope with serious energy shortages. One key part of the act was to gradually deregulate natural gas prices so that higher prices would encourage producers to drill more wells and encourage consumers to conserve its use. At the same time, FERC moved to restructure the gas pipeline industry so that sales of natural gas were unbundled from the transportation service provided by the pipelines. The pipelines would no longer own all of the gas carried inside them. Instead, end users of gas could deal directly with producers of the gas, bargain for the best price, and then ship their gas via open access pipelines to where the gas was in most demand. Pipeline rates would continue to be regulated by FERC, reflecting the natural

12. Phillips Petroleum Co. v. Wisconsin, 347 U.S. 672, 677 (1954).

monopoly power of this distribution system. The vision that FERC had, and that Ken Lay shared, now as CEO and President of Houston Natural Gas Company, was of an industry structure that looked like this:¹³



The physical flow of natural gas remains the same as in the pre-1985 era, but the buy/sell financial transactions involve new players, such as gas marketers, brokers, and purchasing agents, and new risk management tools. Natural gas was increasingly sold into a spot market on thirty-day contracts rather than committed to twenty-year contracts at a fixed price. If gas producers or end users did not want to develop their own in-house expertise to buy and sell gas in the new fast-moving market, they could use gas marketers that specialized in matching supply to demand.

To realize this vision of a competitive gas market between producers and end users, FERC faced a daunting task. Under the Natural Gas Act, FERC had no power to require an interstate pipeline to transport gas for a third party. Starting in the early 1980s, FERC issued a series of orders aimed at transforming pipelines to “open access” carriers that were obligated to carry gas owned by third parties on equal terms with gas owned by the pipeline itself. FERC required pipelines to “functionally

13. EEE, *supra* note 11, at 436.

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unbundle” their merchant gas sales function from their pipeline transportation function. FERC did not require that the pipelines actually physically divest themselves of one of these two functions. Rather, the companies had to set up separate affiliates to maintain an internal “firewall” between the two so that the pipeline affiliate would not give special information or treatment to its own gas producing affiliate or gas storage affiliate that was not shared equally with competitors for the pipeline space. Pipelines had to file published tariffs on electronic bulletin boards so that all shippers could buy service at the same rate as the pipeline charged customers who bought gas owned by the pipeline.

FERC also created a new secondary market in pipeline space. A shipper, who had committed to buy, say, 30 percent of the pipeline’s space, could release unwanted space to other companies who could use it. Thus, contracts for released pipeline space could be bought and sold on the electronic boards.

In 1985, Ken Lay was CEO of Enron, a company formed by the merger of Houston Natural Gas with Internorth Natural Gas to create a company with 37,000 miles of pipelines in 1985, transporting about 15 percent of all the gas in the U.S. by the early 1990s.¹⁴ In 1988, in a meeting called the “come to Jesus” gathering, Ken Lay announced Enron’s major strategy shift: to seek opportunities and growth in unregulated energy markets, leveraged off its stable base as a regulated pipeline company.¹⁵

By 1995, a preeminent scholar of gas markets gave FERC high marks for its performance in creating competitive markets for gas:

The participants in the gas market have responded to the spur of competition by implementing numerous efficiency-enhancing commercial and technological innovations. Gas is being found, produced, stored and transported at much lower cost than was the case a decade ago. Gas is traded constantly at dozens of market hubs at constantly changing spot prices. Hundreds of new pipeline interconnections have transformed the previously fragmented transportation system into a closely integrated network that links all North American supplies with all markets in the United States and

14. BRYCE, *supra* note 10, at 31–33.

15. LOREN FOX, ENRON: THE RISE AND FALL *vii* (2003) (providing a timeline of Enron events).

Canada. Electronic bulletin boards allow . . . continuous trade [in] transportation capacity so that all gas can move from supply areas to market areas over the least expensive route.

The deregulated gas market performed extremely well during the unusually cold 1993-1994 winter. That performance was in sharp contrast . . . to the disappointing performance of the still-regulated electricity industry . . . [in which] all industrial, commercial, and governmental activities in the Middle Atlantic states had to be halted for a day in January 1994 to avoid a complete electricity blackout of that region.¹⁶

According to Professor Pierce, the “closely analogous” electricity industry was an obvious candidate for similar restructuring, which could “improve that industry’s performance dramatically and reduce the nation’s electricity bill by approximately \$24 billion a year.”¹⁷ The choice was simple: should markets or central planning dominate the performance of the electricity industry?¹⁸

C. *Electricity Deregulation Begins*

Beginning in the early 1990s, electricity restructuring began abroad in countries such as the United Kingdom, Argentina, and Australia. In many of these countries, the government actually owned the electricity systems. Restructuring was usually accompanied by an auction or sale of these government assets, placing the industry into the hands of private investors (many of whom were U.S. companies). In the United States, most electric utilities are already privately owned and are commonly called “IOUs” or investor-owned utilities. Thus, privatization was not necessary, but eliminating the monopoly power of these franchised IOUs and opening up the electric grid to nondiscriminatory access for transmitting electricity were essential to competitive markets. The following graphic

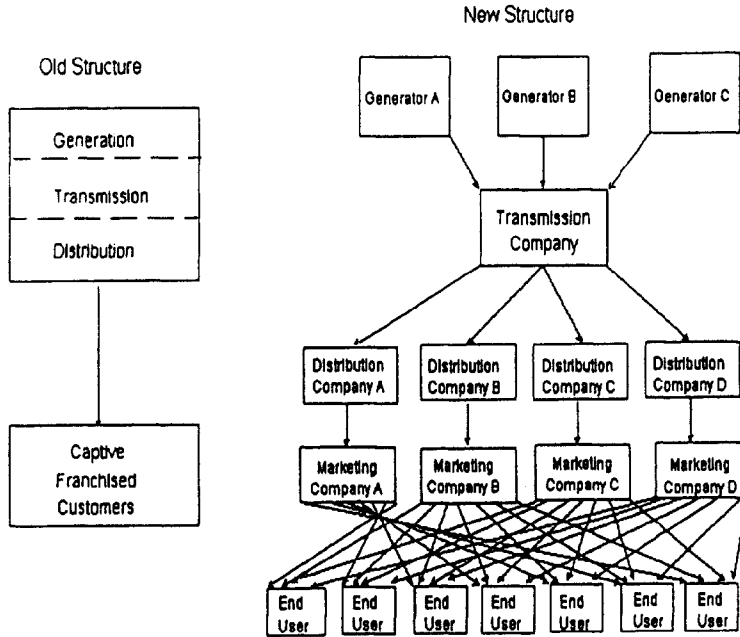
16. Richard J. Pierce, Jr., *The Evolution of Natural Gas Regulatory Policy*, 10 NAT. RESOURCES & ENV'T 53, 84 (Summer 1995).

17. *Id.* at 85.

18. Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electricity Industry*, 93 COLUM. L. REV. 1339, 1342 (1993).

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illustrates in broad form the move from the old structure to the new:¹⁹



Under the traditional structure, one vertically integrated utility was granted a monopoly franchise to serve a particular area of a state. The utility operated its own generation plants (fueled by coal, nuclear, or natural gas), transmitted the electricity on high voltage transmission lines, and then distributed it to individual homes and businesses on lower voltage distribution lines. Customers had no choice of provider.

The grant of these monopoly franchises amounted to a “regulatory compact” between the state and the privately owned utility. The utility was granted a monopoly and in exchange had a duty to serve all customers in its territory. With a captive market guaranteed to it, a state public utility commission (PUC) regulated the rates of the utility so that prices to end users would be just and reasonable. Rates were regulated under the traditional cost-of-service formula as follows:

$$\text{Revenues} = \text{Capital Base times a Reasonable Rate of Return} \\ + \text{Operating Costs.}$$

19. EEE, *supra* note 11, at 709.

Under this formula, the regulatory body limited the amount of revenues a utility could receive. The private utility could earn a reasonable rate of return on the capital costs it invested in generation and transmission facilities, but only if the capital was prudently invested in useful facilities. Utilities could also recover their operating costs—largely the cost of fuel—as long as these costs were prudently incurred.

Under cost-of-service ratemaking, a regulated utility has an incentive to over-invest in capital facilities because every dollar spent on capital improvements earns a rate of return. Economists named this incentive to over-invest the “Averch-Johnson” inefficiency of cost-of-service ratemaking (named for the authors who first analyzed it rigorously).²⁰ It was this inefficiency that restructuring the power industry was to cure. Cost-of-service ratemaking involved lengthy hearings conducted by the state utility commissions to assess and project long-term future electricity demand in the area served by each utility and the most efficient fuel source or type of plant to serve that demand. These hearings became especially contentious during the 1970s when utility investments in nuclear power plants cost billions of dollars more than projected, greatly raising consumer rates and the ire of environmentalists.²¹

On the national level, FERC regulates the interstate sale of electricity at wholesale, by regulating both the wholesale price of electricity and the rates charged for use of the transmission wires. These wires are the equivalent of a gas pipeline—an essential network industry that is often a natural monopoly. Unless rate-regulated, a bottleneck industry can extract monopoly rents from generators and end users who must use the transmission service to move electricity to market. FERC used cost-of-service ratemaking for interstate transmission of electricity. Similarly, state PUCs regulated the rates charged for local distribution of electricity to retail users. State PUCs also regulated the siting of new generation facilities and transmission lines. Thus, complete deregulation of electricity markets from power plant to a homeowner’s light switch would ultimately require restructuring the industry at two levels—the federally regulated, wholesale market for electricity and the state-regulated retail market.

20. Harvey Averch & Leland L. Johnson, *Behavior of the Firm under Regulatory Constraint*, 52 AMER. ECON. REV. 1053–69 (1962).

21. EEE, *supra* note 11, at Ch. 8 (examples of traditional ratemaking; see especially 541–43 on nuclear plants).

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The brave new world of restructured electricity would free the formerly captive end users to make deals directly with generators, using open access transmission and distribution wires to transmit electricity along the cheapest path. As part of the same National Energy Act of 1978 that eventually deregulated natural gas prices, Congress passed an act called PURPA (the Public Utilities Regulatory Policy Act) to promote non-conventional ways of producing electricity that conserved scarce oil and gas as a generating fuel. PURPA encouraged the growth of new wholesale providers of electricity called “Qualifying Facilities” or QFs. Only a certain type of generating facility could qualify for QF status, namely small, non-conventional producers of wind, solar, geothermal, hydroelectric or cogeneration plants. But these QFs became the first independent power producers, i.e., producers of electricity that were independent of the existing franchised utility.²² To encourage their growth, Congress authorized FERC to require that the existing utilities purchase all the power produced by the QF at a price reflecting the utilities’ “avoided cost” of generating power itself. Under guidelines set by FERC, some state public utility commissions set a rather high rate for this required purchase. Thus, with both a guaranteed high price for their electricity and a guaranteed market, private capital flowed into the QF sector, especially in California with its geothermal potential. While the intent of PURPA was largely to decrease our dependence on scarce oil and gas by developing diversified energy sources, PURPA had the effect of creating the first competitive markets at the generation end of the vertically integrated electric utility industry.²³

In the Energy Policy Act of 1992, Congress added a different type of independent power producer to the landscape—an “e-wog,” or EWG, which stands for an exempt wholesale generator. Such a generator is exempt from the regulatory constraints of a 1935 New Deal statute called PUHCA (the Public Utilities Holding Company Act) which regulated the activities of large, utility holding companies whose collapse in the Great Depression had caused great problems.²⁴ E-wogs, unlike QFs, can generate electricity using large gas or coal-fired plants, but they cannot be vertically integrated and cannot own transmission assets. The

22. EEE, *supra* note 11, at 717–20, 749–52.

23. See generally Darren Bush, *Creating Competition in Electricity Generation: Reconciling the Public Utility Regulatory Policies Act of 1978 with the Energy Policy Act of 1992* (Ph.D. dissertation, UMI Press 1995), available at www.umi.com.

24. EEE, *supra* note 11, at 747–49.

E-wog, now more often called an independent power producer, or IPP, is the merchant power plant in the business of producing electricity to sell into the wholesale market. As long as the merchant plant does not sell electricity at retail, the plant's rates are regulated by FERC, not by the state PUC.

Both the growth of independent power producers and public dissatisfaction with high utility rates from cost overruns in the 1970s led state PUCs and FERC to experiment with different types of electricity rates. Both agencies adopted performance-based rates or incentive rates that allowed both utility shareholders and consumers to benefit if a utility's financial performance resulted in a rate of return higher than a cost-based return. Under these new ratemaking formulas, a utility had the incentive to reduce costs to gain a higher, but still controlled, rate of return. Performance indicators based on worker safety, system reliability (blackouts), and customer satisfaction monitored the utility's non-price behavior, and financial rewards or penalties were granted if the utility under- or over-performed against national standards.

For IPPs, FERC adopted the penultimate incentive rate—unregulated, market-based rates. IPPs would live or die based on the ability of their management to build more cheaply and operate more efficiently than existing power plants owned by utilities. If IPPs could undersell traditional utilities when electricity markets opened up to competition (which depended crucially on the IPPs being accorded equal access to the transmission lines owned by the utilities), their shareholders and managers would reap profitable rewards. If they could not produce competitively, the IPPs would suffer the same fate as any unregulated business, including bankruptcy. Since IPPs, by definition, did not own transmission facilities (which were still regulated as a natural monopoly) and because they were often new entrants to a previously closed system, IPPs were given market-based rates on the grounds that they did not possess market power.²⁵

In the middle of electricity restructuring sits the power marketer.²⁶ Traditionally, the vertically integrated utility was the only entity that bought and sold electricity in bulk in wholesale markets. Now, power marketers emerged as key players. They owned none of the hard assets of generation, transmission or distribution. A power marketer like Enron bought electricity from all types of generators, those still owned

25. *Id.* at 720–31.

26. *Id.* at 780–88.

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by IOUs, E-wogs or QFs, and then resold the power to another utility. FERC has jurisdiction over the power marketer because it makes sales of electricity in interstate commerce at wholesale. However, many of the regulations that governed traditional public utilities were waived for power marketers. Because most marketers do not own generation or transmission, which could give them market power in certain geographical areas, they are permitted to charge market-based rates—that is, whatever price is agreed upon by buyer and seller. The power marketer did not need to file accounting records with FERC because no cost-of-service ratemaking is done. Nor did the marketer have to file individual contracts with FERC for its approval. The marketer simply had to file quarterly summaries of their transactions.

A FERC report in March 1999 described the “breakneck speed” of change in the electric utility industry, with power marketers as key players. Sales of electricity by power marketers had jumped from 2.6 million megawatt-hours of electricity in the first quarter of 1995 to 95 million megawatt-hours in the fourth quarter of 1996.²⁷ The market at that time was still somewhat concentrated: 73 percent of all sales were made by only ten power marketers. One, Enron, had about 26 percent of the market.

By 1997, electricity futures contracts were being sold on the New York Mercantile Exchange (NYMEX) to serve the growing wholesale trade. Power marketers are the biggest users of futures, although investor-owned utilities that secure FERC approval of market-based rates will also use futures to hedge their risks in the more volatile world of energy markets. The power marketer that enters into a contract to sell power at a set price runs the risk that the price it must pay for electricity as a buyer will increase before the power is delivered to its customer. NYMEX allows the marketer to hedge risks using the futures market. Under traditional cost-of-service ratemaking, utilities did not need a futures market—they were guaranteed a rate of return that allowed them to recover their costs.

D. *Enron: The Next Big Idea*

“WMM.”

Jeff Skilling’s license plate: “We Make Markets.”²⁸

27. *Id.* at 785–90.

28. PETER C. FUSARO & ROSS M. MILLER, WHAT WENT WRONG AT ENRON 70 (2002).

“Better Reliability through Markets.”***Motto of the California Independent System Operator (CAISO).***²⁹

Enron’s “genius” was to build a business model that tracked the opening of deregulated energy markets. This business model was accompanied by a powerful and well-financed political lobbying arm that worked to push government regulation out of the markets. Voted the most innovative company in America from 1996-2001, Enron “synthesized existing ideas from the Texas oil business, Wall Street and Silicon Valley.”³⁰ From the high-tech oil industry came the use of massive supercomputer processing capacity, built to analyze seismic data culled from sound waves miles beneath the earth’s surface, and then transferred to use in complex financial modeling. From Wall Street came the use of sophisticated risk management tools, such as hedging and derivatives. From Silicon Valley came the use of the Internet to transact energy trades in real-time, like buying and selling on eBay. Enron started with a sound business model, which operated with deserved success in the early 1990s. This section describes in more detail the innovations Enron introduced into energy markets.

As FERC deregulated gas markets, gas began to be traded as a commodity on spot markets. Jeffrey Skilling, a management consultant from McKinsey & Company, quickly grasped the effect of this radical change on gas producers and gas users. With gas no longer tied to fixed-price, long-term contracts, both sellers and buyers in the market would need hedging tools to manage volatile prices.

The Gas Bank. Enron’s first innovation, engineered by Jeff Skilling, was the Gas Bank.³¹ With the higher gas prices allowed under the Natural Gas Policy Act, new supplies of gas came onstream at the same time that the Clean Air Act was creating a new demand for gas as a far cleaner fuel than coal for electricity generation. The Gas Bank matched the new supplies with the new demand. Producers deposited gas in the Bank under long-term purchase contracts with Enron, which guaranteed the producers a steady cash flow, essential to their being able to

29. Robert McCullough, *Revisiting California*, PUB. UTIL. FORTNIGHTLY, Apr. 1, 2002, at 28.

30. FUSARO & MILLER, *supra* note 28, at 75; *see also* Daniel Altman, *Finding Gems of Genius Among Enron’s Crumbs*, N.Y. TIMES, §4 (Page the Nation) (Feb. 3, 2002) at 6.

31. *See* BRYCE, *supra* note 10, at 52–59, and FOX, *supra* note 15, at 22–40 for more detail about Enron’s start in gas trading in both physical and financial markets.

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secure financing for their drilling ventures.³² Gas users entered into multi-year contracts with the Bank, paying a premium for a guaranteed gas supply of large volumes. Enron, as the middleman, pocketed the spread. Enron Gas Services was a smash hit with an old-fashioned product marketed in a new way. The Gas Bank created more demand for gas-fired power plants because these plants could get financing based on their assured gas supply.

Enron provided price stability through Wall Street's techniques of swaps and options. Swaps allow a gas user to swap a floating price for a fixed price.³³ Options give gas buyers the right, but not the obligation, to buy gas in the future at a fixed price. As the middleman between buyers and sellers, Enron was the counterparty to both sides of the trade and made money on the spread. Of course, Enron was then exposed to the risk of holding gas contracts with an obligation to deliver at a fixed price when prices might zoom upwards in a shortage. Enron developed Enron Risk Management Services to hedge its own risks, and Enron Gas Services became Enron Capital and Trade Resources, headed by Skilling.

In 1992, the success of this business model was exemplified when Enron signed a twenty-year gas contract to supply gas for a large plant being built by an independent power generator, Sithe Energies.³⁴ Enron's "gas bank" concept allowed it to combine gas supplies from the Gulf of Mexico to Canada. FERC's open-access pipeline policies and Enron's own pipeline ownership let it transport gas over a wide grid to assure the power plant of reliable deliveries. Enron used derivatives to hedge its own price risk.

Financial derivatives. Enron's Gas Bank furthered the development of trading in gas futures. In 1990, NYMEX introduced a standardized gas futures contract on its exchange. A future is a simple form of derivative—a contract to buy or sell a commodity at a specified price on a certain day in the future. Most futures contracts are settled in cash, not by physical delivery of the commodity. A gas futures market serves two distinct types of users: the party who wants to offset risk and

32. *Id.*

33. FOX, *supra* note 15, at 27 provides a nice example of hedging through use of a swap. Suppose an aluminum producer in Louisiana wants to buy gas at a fixed price. Enron would write a financial contract under which the aluminum company paid Enron a fixed price for the gas. Enron paid the fluctuating price of the gas bought in nearby fields. Enron's business was to make money on the difference between the fixed and fluctuating prices. *See also, id.* at 36.

34. FOX, *supra* note 15, at 32–33.

secure a fixed price in the forward market; and the party who thrives on and seeks out risk—the speculator hoping to profit on market volatility by accurately forecasting the direction of future prices and betting on these forecasts. The NYMEX market operates like a stock exchange—a liquid market where buyers and sellers can easily trade at transparent prices.³⁵ With NYMEX, a trader who agrees to supply a large volume of gas at a fixed price but has no offsetting deal to buy gas at a guaranteed lower price can buy gas futures to hedge against the risk.

In 1997, with electricity markets deregulating, Enron acquired Portland Gas and Electric, a large electric utility in Oregon. Enron started to engage in trades based on the spark spread, that is, the spread between gas prices (the input side of electricity production) and the price of electricity (the output). Power plant owners could use a spark spread to hedge the difference in price between the gas used to generate electricity and the electricity it sold. Other gas traders like NGC, Duke, and Aquila followed suit.

Still, as the biggest nationwide marketer of both gas and electricity, Enron had the reputation of being able to do the best deals. A buyer or seller looking for a particular deal would first go to Enron, just as traders today go to eBay. Suppose an electric utility in California wanted to buy electricity at \$30 per megawatt-hour. Enron might find someone in the region to sell power to Enron at \$29.50, with Enron netting the margin. But Enron had other options as well. If excess gas existed in the Northeast because of abnormally warm weather, Enron could buy cheap gas there and send it to a power plant in New York, freeing up space in a Canadian pipeline that could then send Canadian gas to the Midwest, releasing Midwest gas which could then be routed to California and traded for electricity costing \$24 per megawatt-hour. Enron could earn a fatter margin on the more complicated trade.³⁶

At the heart of Enron was the trader, intimately familiar with the markets that he or she worked. She would know the weather forecast for all parts of the United States, the timing of the Columbia River fish flush for spawning salmon,³⁷ the prices of

35. In contrast, over-the-counter trading is still customized, face-to-face (or phone-to-phone) bargaining between traders, but these trades can be hedged in NYMEX futures market.

36. See FOX, *supra* note 15, at 98–108 for more detail on Enron's electricity trading business.

37. During spawning season, the operators of the large hydroelectric dams in the Northwest reverse the usual pattern of river flows, boosting prices for peak power. Daytime flows are cut to encourage salmon to spawn lower on the river bank; flows are

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natural gas at key hubs nationwide, pipeline capacities, gas storage inventories, and what power plants were scheduled to go offline for maintenance. By the end of the 1990s, nearly one-quarter of all gas and electric trades went through Enron, a dominance unheard of in the stock market. In 1997, Enron began to sell weather derivatives that allowed heating oil distributors, ski resorts, movie studios and other businesses whose profitability was tied to the vagaries of Mother Nature, to stabilize their revenues. Enron's research department, staffed by brilliant mathematicians, chess grandmasters, and modelers, would analyze gigabytes of weather data to forecast temperature trends that would make these "bets on the weather" profitable to Enron.³⁸

Enron Energy Services (EES). This Enron unit, set up in 1997, marketed the sale of customized energy contracts to large industrial users. One of EES's most famous deals was signed with Owens Corning, the huge glass manufacturer, to supply it with its complete energy needs for twenty plants across the United States for ten years. Enron guaranteed Owens that it would save the company \$60 million in energy costs over the ten-year period. Enron would also get a share of the savings in energy costs. Traders who successfully concluded huge deals like this, involving billion-dollar sales of energy, were awarded large bonuses upfront.³⁹

EnronOnline. By mid-2000, all the top executives at Enron came from the trading side rather than the hard asset side that operated the pipelines and power plants owned by Enron. In late 1999, Enron launched itself into cyberspace with EnronOnline. This proprietary Internet website quickly became the largest e-commerce site in the world, trading electricity, gas, coal, oil, refined products, paper, plastics, petrochemicals, clean air credits, and bandwidth on fiber optic cables. It offered over 800 products for sale.⁴⁰ Enron, the once staid pipeline owner and operator, had taken the New Economy by storm, based not on hard assets, but on intellectual capital—the trader's intimate and superior knowledge of markets. Enron promoted the Kyoto Protocol to reduce greenhouse gas emissions that contributed to global warming. The protocol would allow trading of greenhouse gas credits, and Enron would be at the very center of another global market.

raised at night (off-peak) to keep the eggs submerged.

38. FOX, *supra* note 15, at 133–34.

39. *Id.* at 114–21.

40. *Id.* at 165–69; BRYCE, *supra* note 10, at 216–19.

EnronOnline did not charge to join or use its exchange. Unlike eBay, which matches buyers and sellers for a fee, Enron was the principal in every trade. If a company sold Enron options to buy gas for \$100,000 in the morning, Enron would make money by selling the options in the afternoon for \$105,000. Profits came from making deals. Because Enron was the counterparty for every single transaction, buyers and sellers did not have to wait for another counterparty willing to take their deal. Enron was there, instantly, if its traders thought the price was right. It was as if one company ran the New York Stock Exchange and was also a party in every single trade on the exchange. EnronOnline displayed the prices for all the exchange transactions openly, providing valuable price information to all the players in the market.

This trading model required large amounts of cash. Enron might have to hold some commodities for days or weeks to get the price it wanted on its trades. Enron needed billions of dollars in ready cash to handle this “float.” It also needed to remain creditworthy, or counterparties would refuse to do business with it. In mid-August 2000, *Fortune* magazine named Enron as one of the top ten stocks that would last the decade because it had so successfully transformed itself from a stodgy gas utility to the largest online broker of energy—with broadband width to be its next big thing.⁴¹ Skilling’s license plate said it all: WMM—“We make markets.”

E. *Enron’s Fall: What Went Wrong*

“Relationships don’t matter. Trust doesn’t matter.”

“They’ll do it if the price is right.”

Jeff Skilling.⁴²

Other publications document in more detail what went wrong with Enron’s general business model. In short, nothing mattered except the deal, and Enron made some disastrous deals on the hard asset and non-energy sides of its business, such as the Dabhol gas-fired power plant in India, the Azurix division’s failed foray into privatizing water markets in England and Argentina, and Project Braveheart’s foolhardy rush into selling broadband capacity in a glutted market.⁴³ None of these projects

41. David Rynecki, *Ten Stocks to Last the Decade*, FORTUNE, Aug. 14, 2000, at 114, 117.

42. BRYCE, *supra* note 10, at 124.

43. The books by Bryce and Fox also document Enron’s disastrous deals.

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generated any cash flow to repay the debt borrowed to finance them. EnronOnline also was a cash-hungry business. Addicted to quarterly earnings growth to maintain its share price, Enron hid its ill-performing assets, called “nuclear waste” by Enron insiders, in Special Purpose Entities created to keep debt off the books. When these accounting shams came to light, Enron collapsed, virtually overnight. But—were Enron’s innovations, its energy trading and services businesses, profitable on their own?

They might have been profitable in early years, but they certainly were not as profitable as Enron’s executives portrayed them to Wall Street. An accurate picture of profitability was virtually impossible to obtain because of Enron’s use of mark-to-market accounting, more accurately described as “mark-to-model” accounting—or in Enron’s case, it seems, “mark-to-maybe” or “mark-to-myth.” Whichever “M to M” label is used, this type of accounting allowed Enron to book future revenues immediately. For example, Enron could estimate the value of the twenty-year contract it sold to Sithe Energies, based on projections of future prices (“maybe” prices) of natural gas run through financial models, and offer an optimistic, if not glowing, view of the contract’s value. Jeff Skilling and the Enron Audit Committee adopted mark-to-market accounting in 1991 and then lobbied the Securities and Exchange Commission for its approval. In 1992, Enron became the first non-financial company to get this approval. Many of the contracts projected falling energy prices based on Enron’s forecast of the pace of energy deregulation in various states.

Enron Energy Services (EES) was built on long-term deals to supply energy to large users. It appears to have lost money in 1999, but was able to show a profit the next year.⁴⁴ In hindsight, it appears these profits often resulted from the magic of M-to-M accounting. For example, in February 2001, EES signed a deal to supply Quaker Oats with gas, electricity and trained personnel for fifteen of its plants. It guaranteed Quaker that it would save \$4.4 million a year in energy costs and then projected that Enron would make \$36.8 million in profits over the ten-year contract, booking \$23.4 million of that amount immediately. In many instances, users were enticed to sign the long-term contracts by being offered large amounts of money from Enron. EES paid Eli

44. Jeff Skilling created a fake trading room to impress analysts that EES was profitable. He spent \$500,000 to outfit the room with slick computers and phones and then trained secretaries to act as busy traders. Jason Leopold, *Enron Executives Helped to Create Fake Trading Room*, WALL ST. J., Feb. 20, 2002, at A4.

Lilly \$50 million upfront to sign a fifteen-year contract.⁴⁵ The dealmakers at Enron who closed on such deals were paid huge bonuses before Enron ever made a dime of profit.

In spring 2001, Enron moved EES into its wholesale trading department to hide its losses.⁴⁶ Enron had 28,500 customers worldwide signed onto deals with EES to manage all their energy needs and absorb the risks of volatile prices.⁴⁷ The proof that many of these contracts showed only illusory profits inflated by M-to-M accounting came in bankruptcy court when Enron walked away from many of them. Many of EES's former clients—the city of Chicago, Harrah's casinos in Las Vegas, and San Diego State University—now forced to find other energy providers, remarked on how happy they had been with the EES deals, which had indeed saved them money.⁴⁸ EES, far from being a surging profit center, was losing money on many of the contracts that had been pushed through Enron's management by traders motivated to close the deal and get their upfront bonuses. Their assumptions of the future pace of energy deregulation and of prices were, not surprisingly, overly optimistic.

EnronOnline probably reduced the profits Enron made in trading.⁴⁹ By displaying prices openly, margins narrowed, making Enron more dependent on volume. At the start, EnronOnline could offset reduced margins with greater volumes. By one estimate, the average profit margin on a trade of a unit of natural gas went from five cents in the early days to one cent by 2000.⁵⁰ Other exchanges sprang up and competed with Enron.⁵¹ Moreover, without fees or commissions to produce a steady source of cash, and with Enron as a counterparty to every trade, EnronOnline's business model put enormous pressure on staying creditworthy and liquid. By mid-2000, Enron was doing billions of dollars of trades in 800 products daily. Each hour or day that Enron as a counterparty held a commodity before reselling it required that Enron pay interest on money borrowed to support

45. BRYCE, *supra* note 10, at 209.

46. Tom Fowler, *Division's Motives For Hiding Losses May Be Unlawful*, HOUS. CHRON., Jan. 26, 2002, at 1A.

47. Alex Berenson, *Ex-Workers Say Enron Unit Had Only 'Illusory' Profit*, N.Y. TIMES, Jan. 25, 2002, at A1.

48. Tom Fowler, *Enron Star Unit Loses Large Clients*, HOUS. CHRON., Dec. 6, 2001, at 1C; Melissa Clary, *San Diego State U. Drops Enron For New Provider*, DAILY AZTEC, Oct. 22, 2002.

49. FUSARO & MILLER, *supra* note 28, at 75.

50. FOX, *supra* note 15, at 131.

51. BP, Royal Dutch Shell, Goldman Sachs and others formed ICE, the Intercontinental Exchange, later joined by Duke, AEP, Aquila, Reliant and Mirant. Others created TradeSpark, an online exchange. *Id.* at 234–35.

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its position in the market.⁵²

Enron Capital and Trade (ECT), later called Enron Wholesale Services, handled Enron's risk management services. Its energy derivatives business was clearly profitable from the start, and Frank Partnoy concludes that this one aspect of Enron's business model continued to bring in large amounts of cash even after Enron declared bankruptcy.⁵³ Although competitors entered the business, Enron had a clear advantage by having the most trading activity, so that a buyer or seller looking for a certain deal would most likely find it at Enron. But, as Enron's debt soared and its cash flow withered, Enron became a less creditworthy counterparty. Enron engaged in more than risk management services and trades. Its wholesale services division also placed unhedged bets that gas or electricity prices would head in a certain direction. Such bets are very risky.⁵⁴ Speculative trading on big bets was made by Enron's entire trading staff rather than by individual traders. The company had risk controls in place to limit the amount any trader could put at risk. When Wall Street and Enron's board became increasingly nervous about Enron's huge trading businesses causing massive losses, Enron tightened its internal risk controls in the late 1990s.⁵⁵ Nonetheless, the trading culture remained pervasive at Enron.

From its early days as king of the Gas Bank, Enron had inserted a clause in its derivatives contracts with gas producers assuring that if its counterparty suffered a "material adverse change," then Enron could demand that its counterparty put up collateral to protect Enron against a default by the contracting party.⁵⁶ The clause worked both ways, although no one expected it to ever work against Enron, the stronger party. But, once Enron's accounting shams began to surface and its real debt burden was exposed, its counterparties pulled the trigger under these clauses and demanded that Enron post more cash as collateral to support its contracts. Enron had no cash and could not borrow it. The \$77-billion dollar company collapsed quickly

52. BRYCE, *supra* note 10, at 220–21. In the first six months of 2000, Enron borrowed over \$3.4 billion to finance its overall operations at a time the company's cash flow was a negative \$547 million. By June 2000, interest charges on debt amounted to over two million dollars per day.

53. FRANK PARTNOY, *INFECTIOUS GREED: HOW DECEIT AND RISK CORRUPTED THE FINANCIAL MARKETS* 328–30 (2003).

54. In 1994, a large German conglomerate, Metallgesellschaft (MG) had lost nearly \$1 billion on the oil futures market because it bet that oil prices would decline in the future. FOX, *supra* note 15, at 96.

55. *Id.* at 94–97.

56. BRYCE, *supra* note 10, at 219.

in December 2001.⁵⁷

At the time of Enron's collapse, a *Wall Street Journal* editorial writer marveled at the success of competitive energy markets in absorbing the giant's fall. No price spikes or supply interruptions had resulted because these markets were sufficiently deep and liquid. The fall of Enron was in itself a success story and a tribute to competition.⁵⁸

III. ENRON AND THE CALIFORNIA ENERGY CRISIS

"An imperfect market is better than a perfect regulator."

Ken Lay.⁵⁹

"A dysfunctional market can impose infinitely more harm on consumers than regulators on their worst day."

Consumer Federation of America.⁶⁰

To most of the general public, Enron, energy markets, and the California energy crisis are inextricably linked. The days of rolling blackouts, spectacular price spikes for gas and electricity, Enron's gaming techniques of Death Star and Fat Boy, and the company's ultimate demise are all somehow lumped together in the public consciousness that there is grave danger in deregulated energy markets. Yet the causes of California's crisis are far more complex and the failures in energy markets uncovered by subsequent investigations are far more serious than any acts of Enron alone can possibly explain. California and Enron exposed fundamental problems of mitigating monopoly power, devising restructuring plans that cannot be gamed, and inadequate monitoring by regulatory commissions at either the state or federal level, which can leave consumers in a far worse position than traditional cost-of-service regulation.

It will take many more months, if not years, to sift through gigabytes of evidence to establish more definitively the roles that independent power generators, energy traders, pipeline capacity

57. The bankrupt Enron sold its North American trading business to UBS Warburg in exchange for the promise of a share of future profits from the business, but Enron kept the billions of dollars of derivatives its traders had already bought. While some commentators took this transaction to mean that Enron's trading position had become unprofitable, Partnoy concludes that Enron made more than \$1 billion in 2001 trading natural gas derivatives alone and that the derivative trades provided billions of dollars of cash to the company while in bankruptcy. PARTNOY, *supra* note 53, at 329–30.

58. Susan Lee, *Enron's Success Story*, WALL ST. J., Dec. 26, 2001, at A11.

59. FOX, *supra* note 15, at 200.

60. MARK COOPER, CONSUMER FEDERATION OF AMERICA, ELECTRICITY DEREGULATION AND CONSUMERS 9 (Aug. 30, 2001).

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owners, ISOs, FERC, state politicians, price caps, drought, and environmental laws played in the California energy markets. It is a daunting task—reading through reports of academics, the California Public Utility Commission, the California Independent System Operator (CAISO), California state auditors, FERC, the General Accounting Office, consultants, practicing lawyers, think tanks, the trade press, and testimony in House and Senate Committee hearings—to try to ascertain if the facts, opinions, and analyses from all these varied sources are solidly based or so slanted by the bias of the authoring parties as to be of little use. The economic and political issues are so permeated with ideology that is often difficult to separate the message from the messenger and fact from fiction.

Two simple examples suffice. First, the public was often told that the California crisis was caused by a huge demand for electricity from the tremendous growth in Internet use. In May 1999, at the height of the dot-com boom, a “policy wonk” declared that computers and the Internet now consumed 13 percent of total U.S. electricity demand, from virtually nothing ten years before—and was growing fast.⁶¹ The estimate was quickly used by the Greening Earth Society, a misnamed offshoot of a coal suppliers’ trade association to spread the mantra: “Dig more coal—the PCs are coming.” J.P. Morgan investment analysts then used the projections without attribution or qualification, and the assertion became an accepted fact, even though experts at the University of California’s Lawrence Berkeley National Laboratory later determined that computers in all forms used only about 3 percent of electricity demand. A myth was born: California’s blackouts were not caused by Enron and merchant plants, but by the Internet’s appetite for juice.

Second, the public was also told that California’s “greenies,” environmentalists and local community activists, had caused the crisis because the state had created “monumental obstacles” to siting and granting permits to new power plants.⁶² However,

61. David Wessel, *Bold Estimate of Web’s Thirst For Electricity Seems All Wet*, WALL ST. J., Dec. 5, 2002 (online). In fact, an imbalance in the supply and demand for electricity in California did contribute significantly to the California energy crisis and to the ability of generators and other market participants to exercise market power or manipulate prices, but certainly not because of Internet use alone. The uncritical use of data from suspect sources shows the “herd mentality” that seems to have infected Wall Street’s zeal for merchant power plants and energy trading investments.

62. Susan Tierney & Paul J. Hibbard, *Siting Power Plants in the New Electric Industry Structure: Lessons from California and Best Practices for Other States*, ELECTRICITY J. 35, 49 n. 4 (June 2002). Both the Natural Resources Defense Council (a prominent pro-environment advocacy group) and the conservative Cato Institute issued reports in the first half of 2001 showing that the siting process played an insignificant

since 1974, California has had a one-stop omnibus permitting procedure that is superior to most states' procedures in minimizing the time for siting review while also protecting the public's right to participate in site evaluation. A thorough review of permitting since 1990 showed that major power plant developers did not seek siting permits until California had adopted its electricity restructuring program in 1997 and the "rules of the game" were known to investors. After that date, all of the 23 applications for new plants were approved by the California Energy Commission with an average approval time of 14 months.⁶³ CEC approval meant that all environmental standards of the state's Environmental Quality Act and all state and local agency approvals were met in one fell swoop. Moreover, when the energy crisis hit, California issued 21-day and six-month emergency approval processes for peaking power plants as an extraordinary response to the extraordinary situation it faced. Myth has often prevailed in the debate over energy markets.

Having read through a mountain of material in the past few months, I have emerged with some conclusions that might stand the test of time, regardless of what additional investigations may find. At the very least, the conclusions will provide a framework for the reader to proceed through this rather lengthy article and make his or her own assessment. I would be delighted to look back on this article during the coming years and find that these conclusions were unduly pessimistic.

1. In electricity, markets have met their match. Because electricity cannot be stored, because incumbents still hold substantial monopoly power, and because power markets operating in real time are so complex, regulators cannot assure that markets will operate competitively. Electricity is an essential good for most residential users and for many commercial and industrial users also. This means the demand for electricity is relatively inelastic, that is, consumers will continue to buy it even when its price rises. Under

role in California's energy crisis. *Id.* at 49 n. 6. The Tierney & Hubbard article is based on a comprehensive report by the California Bureau of State Audits issued in August 2001. *Id.* at 49 n. 5.

63. *Id.* at 37.

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these conditions, it is extraordinarily difficult to discern when price rises and price spikes signal true scarcity and when they signal the abuse of market power or a design flaw in the restructured system. The power markets may be “made to work” but only by imposing on them a degree of market intervention that defies the label of “deregulation” and which may well be greater than the regulatory burden of cost-of-service ratemaking.

2. Businesses will seek to exploit loopholes and some people in business will always cheat. Even a few “legal loopholes” or outright acts of cheating can ruin a market, especially an emergent market created in a newly deregulated sector. These anti-competitive loopholes are difficult for regulators to detect. As Federal Reserve Chairman Alan Greenspan recently remarked with some chagrin: “It is not that humans have become any more greedy than in generations past. It is that the avenues to express greed [have] grown so enormously.”⁶⁴
3. Politicians, economists, and many industry lobbyists have promised that residential consumers will benefit from electricity deregulation, largely through lower prices. This promise is not easy to keep.
4. No matter what the cause, consumers will not consider large price increases in gas or electricity to be fair, especially when they have been promised price decreases. The business risk of operating in this political climate is significantly higher than that in

64. Bill Goldstein, *When Greed Was a Virtue and Regulation the Enemy*, N.Y. TIMES, July 21, 2002, Sec. 4 (Week in Review), at 7. The quotation is from Greenspan’s testimony before the House Banking Committee on July 16, 2002. Greenspan acknowledged that he had been wrong in his long-held belief that the government should not regulate the accounting industry.

regulated markets. In a capital-intensive industry like power generation and transmission, higher business risk increases borrowing costs and makes the promise of lower prices even more difficult to achieve.

5. The business lobby can run powerful political campaigns that successfully leave large loopholes in regulatory regimes that businesses then exploit legally. The business lobby can also run powerful public opinion campaigns championing free markets and consumer choice. When the two campaigns produce contradictory results in delivering actual consumer benefits, trust in business dissipates. The only institutions capable of restoring trust in “deregulated” markets in the United States at this time are governmental agencies that are themselves trustworthy because they have the staffing, expertise, and budgetary resources to restructure and police the markets effectively. The ultimate irony of “energy deregulation” is that it requires strong regulation and oversight to succeed.

With this preview in mind, the next section of this article will address the four major areas where investigations have uncovered the most serious problems that have led to a crisis of confidence in deregulated energy markets:

1. Gaming a flawed regulatory system.
2. Withholding generating capacity.
3. Affiliate abuse of pipeline capacity.
4. Manipulation of gas and power price indices.

But first, California’s framework for competitive retail power markets must be described. In doing so, the uniqueness of electricity as a commoditized product will make apparent why electricity markets are so difficult to structure.

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A. *California's Electricity Deregulation Plan*

“Enron bled California dry and used us as a cash cow to keep the price of its stock high so that insiders could sell out.”

Senator Barbara Boxer of California, April 2002.⁶⁵

“Deregulation always benefits people. If it doesn't, you have to rework it until it does.”

Pat Wood III, FERC Chairman, June 2001.⁶⁶

If any one state embraced competitive markets in electricity, it was California—the state that symbolized the New Economy and represented one-eighth of U.S. domestic production. In 1999 (before the chaos began), Professor Suedeen Kelly, a former state utility commissioner, thanked California for its “bold experiments that so richly benefit the rest of us.”⁶⁷ In an article whose theme is that the new electric powerhouses will be an awesome change for society, but hopefully not a cataclysmic one, she noted that only California of all the states had leaped into restructuring rather than adopting a cautious, go-slow approach so often criticized by many economists. She attributed this leap, in her usual charming manner, to Californians' daily familiarity with living on earthquake faults, which probably numbed them to the fear of cataclysmic change.⁶⁸

California's energy crisis began in May 2000 and ended in June 2001, although in a very real sense it will not end for many years. At the height of the crisis, California signed long-term power contracts with many independent power producers (IPPs) and energy suppliers that will leave its citizens paying energy prices far above any other state and far above the level it began with before it embraced deregulation with such verve and fervor.

But, to start at the beginning, by the mid-1990s, wholesale

65. Senator's Boxer statement to the Senate Commerce Subcommittee, as quoted in *U.S. Senate Probes Enron Calif. Price Manipulation*, REUTERS, Apr. 11, 2002 (ECP online).

66. As quoted in Timothy P. Duane, *Regulation's Rationale: Learning from the California Energy Crisis*, 19 YALE J. ON REG. 471, 493 (2002).

67. Suedeen G. Kelly, *The New Electric Powerhouses: Will They Transform Your Life?*, 29 ENVTL. L. 285, 295 (1999). Justice Jackson once wrote of state utility commissions that it is “wise to keep the hand of state regulatory bodies in this business, . . . [as] laboratories where many lessons in regulation may be learned by trial and error on a small scale without involving a whole national industry in every experiment.” *Connecticut Light & Power Co. v. Fed. Power Comm'n*, 324 U.S. 515 at 530 (1945).

68. Kelly, *supra* note 67, at 291.

electricity trading nationally had advanced rapidly. More than 400 power marketers had licenses from FERC to buy and sell electricity in wholesale markets.⁶⁹ Wholesale sales of electricity between large buyers and sellers, often using power marketers as middlemen, were well established. A number of states were slowly opening their retail electricity markets, regulated by their state PUCs, to competition also. (Recall that the state PUCs, not FERC, have power over retail energy sales to the ultimate end user such as residential, industrial or commercial electricity users). California took the Big Bang approach to deregulation.

The basics of California's deregulation plan were as follows: California's three major investor-owned utilities with large monopoly franchises⁷⁰ were required to sell off their generating plants and buy electricity from a central pool called the Power Exchange.⁷¹ The utilities were discouraged, but not prohibited, from signing long-term bilateral contracts to buy this power back.⁷² After all, such bilateral contracts could simply reimpose

69. FOX, *supra* note 15, at 196.

70. The three are Pacific Gas & Electric in northern California; and San Diego Gas & Electric and Southern California Edison in the south.

71. If some of this divested generating capacity had gone to new entrants rather than to existing large IPPs that already owned plants in California, such as Dynegy and Duke, and if other large IPPs like Reliant and AES had been forced to divest some of their existing generating capacity to new entrants, the resulting more competitive market structure might have saved Californians more than \$2 billion in lower energy prices in summer 2000. JIM BUSHNELL, LOOKING FOR TROUBLE: COMPETITION POLICY IN THE U.S. ELECTRICITY INDUSTRY (Center for the Study of Energy Markets, Univ. of Calif. Energy Inst., CSEM WP 109, Apr. 2003) available at <http://www.ucei.org>.

72. Contrary to many accounts, the California PUC did not prohibit, but merely discouraged, long-term contracts by not guaranteeing full cost recovery of these forward contracts should they be priced above spot market prices. The three large regulated utilities were thus buying electricity at wholesale in the spot market while the rates at which they could sell electricity to the bulk of their retail customers were frozen under the California plan, a rather risky business model even considering that everyone thought wholesale rates would fall with deregulation. It is not clear why the three utilities failed to hedge this spot market risk. Frank Wolak posits that the utilities believed that FERC would intervene and declare wholesale prices to be unjust and unreasonable if these prices rose to such a level that the utilities faced negative returns. Wholesale prices would have to double to put the utilities in this untenable situation, and a doubling from \$35 to \$70 per megawatt-hour was unfathomable. It could only occur by the exercise of substantial unilateral market power—which FERC would surely act to correct. No one foresaw the rise in natural gas prices that ultimately played a key role in the crisis. See FRANK WOLAK, LESSONS FROM THE CALIFORNIA ELECTRICITY CRISIS 7–8 (Center for the Study of Energy Markets, Univ. of Calif. Energy Inst., CSEM WP-110, Apr. 2003) available at <http://www.ucei.org>. Contrary to many accounts, the California PUC did not prohibit, but merely discouraged, long-term contracts by not guaranteeing full cost recovery of these forward contracts should they be priced above spot market prices. The three large regulated utilities were thus buying electricity at wholesale in the spot market while the rates at which they could sell electricity to the bulk of their retail customers were frozen under the California plan, a rather risky business model even considering that everyone thought wholesale rates would fall with deregulation. It is not clear why the three

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the existing vertically integrated franchised structure and allow the three utilities to buy from their previously owned plants, squeezing out new entry by competitive merchant power plants, the IPPs (independent power producers).⁷³ The three investor-owned utilities continued to own their transmission and distribution networks, still regulated under cost-of-service ratemaking by either FERC (for interstate transmission) or the California PUC (for local distribution). Thus, the utilities would now have to buy electricity from the Power Exchange at market prices that fluctuated by the day, hour, and even by ten-minute segments, depending on demand. The California Independent System Operator, or ISO, played the role of air traffic controller, monitoring the physical flow of electricity along the transmission network from generators to users and assuring reliability.

The ISO has a crucially important role to play in electricity markets because of the physics of electrons and wires. Unlike oil and gas, electricity cannot be stored. Disaster in the form of blackouts can occur unless electricity suppliers generate exactly the amount of power that users demand at every single minute. Matching supply to demand—to the flip of any consumer's light switch—is the tricky business called "load balancing." The ISO is the entity that monitors the physical flows of electricity and balances the loads throughout the entire network grid. If any imbalance occurs anywhere on the grid, then the entire grid is in peril.⁷⁴ It is as if, when one plane in the air develops trouble with

utilities failed to hedge this spot market risk. Frank Wolak posits that the utilities believed that FERC would intervene and declare wholesale prices to be unjust and unreasonable if these prices rose to such a level that the utilities faced negative returns. Wholesale prices would have to double to put the utilities in this untenable situation, and a doubling from \$35 to \$70 per megawatt-hour was unfathomable. It could only occur by the exercise of substantial unilateral market power—which FERC would surely act to correct. No one foresaw the rise in natural gas prices that ultimately played a key role in the crisis. See FRANK WOLAK, LESSONS FROM THE CALIFORNIA ELECTRICITY CRISIS 7–8 (Center for the Study of Energy Markets, Univ. of Calif. Energy Inst., CSEM WP-110, Apr. 2003) available at <http://www.ucei.org>.

73. The lack of long-term bilateral contracting in California's market design has been heavily criticized, after the fact. But regulatory theorists (mainly economists) and potential market entrants persuaded regulators and legislators that competition would be jump-started by forcing most power sales through a central market. JOHN W. ROWE ET AL., COMPETITION WITHOUT CHAOS 3 (AEI-Brookings Joint Center for Regulatory Studies, Working Paper 01-07, June 2001). Great Britain, the leader in electricity deregulation, had such a system (which it revised in 2001 because it allowed too much monopoly power to be exercised by large generators).

74. The Northeast blackout of 1965 affected thirty million electricity customers from New York City to Ontario when a defective relay at an electrical station in Ontario triggered a cascading series of problems throughout the northeastern grid. Darren Bush & Carrie Mayne, *In (Reluctant) Defense of Enron: Why Antitrust Law Fails to Protect Against Market Power When the Market Rules Encourage Its Use*, 83 OR. L. REV. 1 (forthcoming 2004). In response, in 1968, electric utilities formed the North American

a wing flap and starts nose-diving, all other planes in the air simultaneously drop out of the sky unless an air traffic controller seizes control over them and redirects their downward course. When a transmission line overheats or an ice storm brings down wires, when a power plant unexpectedly fails or demand surges in a heat wave, the ISO must have two capabilities: First, it must be able to reroute electricity flows instantaneously to keep the grid in balance. Second, the ISO must be able to provide what are called “ancillary services.”

Ancillary services sound like a minor item, and in this regard they are quite misnamed. Ancillary services are really “essential services” that assure reliability of power flows through techniques such as keeping a margin of spinning reserves. Spinning reserves are excess capacity in the form of spinning turbines whose electricity can be connected to the grid in minutes, if need be. ISOs also provide ancillary services such as voltage control and measurement. In short, the ISO is the traffic controller that coordinates the complex flow of electrons through the wires, preventing the wires from overheating due to congestion, and rerouting supplies and balancing load demand every minute of the day in real time. When utilities were vertically integrated monopolies, they could coordinate much of the supply/demand balancing within their own geographic territory, with some cooperation from neighboring utilities. When electricity markets are opened to competition, this coordination among generators and transmission companies must still be maintained for grid reliability, but the entities involved are now rivals and new protocols and rules must be developed by regulators to assure the smooth operation of a system now composed of many separate and often competing parts.

The California plan was adopted after a lengthy stakeholder process that built a consensus for change among all participants; the legislation passed unanimously by both houses.⁷⁵ In any restructuring plan, cost reallocation looms large as an enormously divisive issue between consumers and utilities (and their shareholders) because of stranded costs and cross-subsidized rates. Stranded costs are the costs of the existing power plants which the incumbent utilities will not be able to recover in rates after deregulation begins. If plants were built on

Reliability Council (NERC) to assure greater reliability so that problems could be better prevented from spreading throughout a grid. *Id.* NERC thus also helped to promote a wholesale electricity market by fostering trades among utilities when one utility experienced technical difficulties. *Id.*

75. Kelly, *supra* note 67, at 296.

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the expectation that electricity would be sold for six cents per kilowatt-hour through cost-of-service rates, when new lower-cost competitors invade what was once the utility's franchise territory and start selling electricity for four cents, the utility's high-cost plants will become uneconomic, "stranding" this investment.

At the same time, retail competition will usually disadvantage the small residential and commercial consumer because these customers will lose the rate subsidy built into traditional rate-making. State commissioners often designed retail rates so that large industrial users paid a little more and small consumers paid a little less than blind market forces would dictate. This cross-subsidy between large and small users cannot continue to exist under competition, meaning that rates to small consumers will rise relative to rates paid by large users. Championing a residential rate increase is political suicide for state commissioners and legislators. Both the rhetoric and reality of lower rates are a political necessity for passage of deregulation laws.⁷⁶ Given these two political imperatives—stranded cost compensation to utilities and lower rates to consumers—it is a virtual miracle that any states have managed to satisfy all constituents sufficiently to ensure passage of retail restructuring laws. The essential premise of restructuring is that competition will lower costs sufficiently to both fund stranded cost reimbursement and benefit consumers.

The restructuring states have adopted imperfect, but "common sense" methods of resolving these billion-dollar issues. Virtually all states have gerry-rigged systems that freeze or lower or place a maximum "cap" on rates to residential consumers for a period of years, while also devising methods that allow utilities to recover their stranded costs from consumers. Professor Kelly praised California for its political and economic balancing of these two issues. Utilities were assured a mechanism to recover their stranded costs, and rates for residential and small consumers were lowered by 10 percent.⁷⁷

A few cautionary voices from the academic world of

76. *Id.* at 299–300. Professor Kelly chides economists who tout the virtues of efficient markets without recognizing the political constraints imposed by the real world. Economists suffer the "fallacy of misplaced concreteness" that relies on abstract models which simply cannot be applied in the real world and which threaten the process of devising creative solutions to the uncommon problems posed by electricity restructuring. *Id.* at 299.

77. While rates were decreased 10 percent, consumers were charged fees that paid for the bonds used to securitize the utilities' stranded costs and assure their recovery. Duane, *supra* note 66, at 501. Thus, the 10 percent rate decrease was offset by an 8 percent fee surcharge. *Id.* Students at state universities are quite familiar with the phenomenon of fixed tuition rates, but escalating fees.

economists raised concerns that markets in electricity were not easy to design properly and were too easy to manipulate. In February 2000, Severin Borenstein and James Bushnell at the University of California Energy Institute at Berkeley warned that too few lessons were being learned from the experiences of countries or states that had already embarked on this path. They wrote:

Probably the two most salient lessons are that the short-run benefits are likely to be small or non-existent, and the long-run benefits, while compellingly supported in theory, may be very difficult to document in practice. More concretely, market power among generators is likely to be a more serious and ongoing concern than has been anticipated by most observers In general, the non-storability of electricity, combined with very little demand elasticity and the need for real-time supply/demand balancing to keep the grid stable, has made restructuring of electricity markets a much greater challenge than was inferred from experience with natural gas, airlines, trucking, telecommunications, and a host of other industries.⁷⁸

The authors then noted that almost every electricity market currently operating in the world uses some form of price or revenue cap to counteract these problems.⁷⁹ They also observed that, independent of restructuring, electricity prices were expected to fall in the 1990s as sunken investments in high-cost (largely nuclear) generating facilities were paid off or long-term, high-priced contracts expired. The real question was whether restructuring would result in prices lower than what traditional regulation would have achieved.⁸⁰ While the authors

78. SEVERIN BORENSTEIN & JAMES BUSHNELL, *ELECTRICITY RESTRUCTURING: DEREGULATION OR REREGULATION?* 2 (Univ. of Calif. Energy Inst., PWP-074, Feb. 2000), available at www.ucei.org.

79. *Id.* at 11–12.

80. *Id.* at 15–16. Econometric studies showed that prices exceeded competitive levels by 20 to 25 percent in Great Britain's deregulated power pool, and electricity prices in California were about 14 percent above competitive levels in 1998 and 1999. See TIMOTHY J. BRENNAN, KAREN L. PALMER & SALVADOR A. MARTINEZ, *ALTERNATING CURRENTS: ELECTRICITY MARKETS AND PUBLIC POLICY* 36–37 (2002). Restructuring was not achieving as low prices as had been hoped for. In 2001, Great Britain changed its regulatory system to decrease the market power of large generators during peak demand periods and prices did fall significantly. *Id.*

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acknowledged that introducing more competition into energy markets had enormous potential benefits, it also had serious risks due to the physics of electricity and the continued existence of monopoly power in the industry.

Just three months after the California's bold leap into energy markets began, a dramatic price spike for replacement reserve electrical capacity occurred in July 1998.⁸¹ FERC had just issued an order deregulating the market price for replacement reserves, a form of stand-by power. Prices surged from the regulated range of \$10 per megawatt-hour to \$9,999 per megawatt-hour. (The generators apparently assumed that the ISO's software program would not accept bids exceeding four digits).⁸² The California regulators filed an emergency motion with FERC for a stay of the generators' market-based rates. At this point, FERC had jurisdiction over the Power Exchange (PX), which traded electricity at wholesale.⁸³ California's radical embrace of real-time markets operating through the Power Exchange system had divested the state of any control over these markets. FERC rejected the request for a stay of the market-based rates, although it allowed the California ISO to reject bids in excess of price levels it considered improper for ancillary services.⁸⁴

No major problems emerged until the May 22, 2000 price tsunami hit. But the scene was certainly set. In the California ISO system, over half of the 288 generating units were designated as "must run" units for reliability purposes. "Must run" plants are so important to grid reliability, that regulators will not allow market forces to determine whether the plant should run or not. As Borenstein and Bushnell put it: "What electrical engineers call reliability concerns, economists call local market power."⁸⁵ In a market system, high prices will send a signal to investors that it is profitable to build new power plants

81. Nicholas W. Fels & Frank R. Lindh, *Lessons From the California "Apocalypse": Jurisdiction Over Electric Utilities*, 22 ENERGY L. J. 1, 10-11 (2002). Just a month before, in June 1998, a huge price spike in electricity hit the Midwest. Wholesale power prices rose as high as \$6,000 per megawatt-hour, 200 times the normal price. For the fallout from this event. see FOX, *supra* note 15, at 197-98.

82. BORENSTEIN & BUSHNELL, *supra* note 78, at 11-12. The assumption was wrong. A bid in the millions of dollars would have been accepted.

83. While EnronOnline also traded gas and electricity at wholesale, FERC did not assert any jurisdiction over these proprietary platforms until the aftermath of the California energy crisis showed the ill effects of this regulatory lack. See Section IV *infra* of this article.

84. The ISO then capped prices at \$250 per megawatt for all ancillary services, such as stand-by power.

85. BORENSTEIN & BUSHNELL, *supra* note 78, at 13.

in certain areas. However, new plants take years to build. Importing electricity to shortage areas can occur quickly unless transmission lines are congested. When “load pockets” of demand arise, and imports cannot reach them, then the local generators in that pocket have very real market power. Building new transmission lines to assure competition from imported electricity is a long-term proposition, and creates huge winners and losers among generators. A company that owns all the generation capacity in one area, say San Francisco, will not want additional transmission built to serve the area. The distributional effects of building transmission lines can easily exceed the efficiency effects, confronting policymakers in the real world with yet another political dynamic that makes restructuring painfully difficult, as FERC has painfully discovered in the past decade. In short, electricity is not a simple commodity like wheat, pork bellies or gas. Electricity markets are tricky to design because of physics, economics, and politics. Nonetheless, California whole-heartedly embraced a commodity model for electricity with devastating effects.

The next subsections B through E of this Section III describe the major events and investigatory reports that ensued during the period from May 2000 when California’s turmoil began through August 2002, when FERC staff issued a report setting out its preliminary findings about market manipulation in California. The last subpart F brings the reader current through the FERC staff’s lengthy final report issued at the end of March 2003. This final report plays a key role in judging whether energy markets can be trusted. It represents FERC’s best efforts to do the rigorous analysis, monitoring, and enforcement in energy markets that now appears necessary to instill trust in the gas and electric markets. The report comes almost three years from the start of the California crisis and will require the FERC Commissioners to make some major decisions during the coming year based on its staff’s recommendations in the final report. The actions that FERC took before 2003 as the California chaos swirled about them are described in Section IV. Sections III and IV thus lay the predicate for assessing the reforms, the fall-out, and the future of energy markets.

B. *Gaming a Flawed Deregulatory Plan: Events Leading to the May 6, 2002 Release of the “Death Star” Memos*

“Like a casino, Enron has a house advantage in the energy markets.”

Enron trading officials to Enron executives and

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*directors.*⁸⁶

“Do you want to do an ex-post type of game or you want to do a congestion type of game plus ex post?”

“I don’t want to crush the market too bad.”

Exchange between Xcel and Mirant traders, July 18, 2000.⁸⁷

“It never occurred to us in our innocence that something so vital to society would be treated like a casino. We thought the hand of Adam Smith would be benign.”

David Freeman, chair of Los Angeles Department of Water and Power, after release of Enron memos, May 2002.⁸⁸

From May 22, 2000 until June 2001, the California electricity market was characterized by emergency alerts, rolling blackouts and huge price spikes. Profits soared for the generators that had bought power plants from the divesting California utilities under the restructuring plan. Six companies that now owned 40 percent of the power generated in California reported the following increases in net income for July, August and September of 2000:

Dynegy—up 83%

Reliant—up 37% overall; wholesale energy division up 642%

Duke—up 74%

AES—up 131%

NRG—up 221%

Southern Energy—up 59%

In addition, Calpine, a merchant power plant company that had built its own plants in California saw its net income rise 243 percent.⁸⁹ Enron reported fourth quarter profits up 34 percent in

86. David Barboza, *Despite Denial, Enron Papers Show Big Profit on Price Bets*, N.Y. TIMES, Dec. 12, 2002, at A1. The trading officials gave the casino analogy to Enron’s directors and executives when they sought to justify engaging in risky, speculative energy trades. *Id.*

87. Scott Thurm & Robert Gavin, *Xcel, Mirant Traders Discussed ‘Games’ to Use in Energy Market*, WALL ST. J., June 10, 2002, at A4. The transcripts of phone conversations, laced with jokes and obscenities were placed on the FERC website for a time.

88. Chris Taylor, *California Scheming*, TIME, May 20, 2002, at 42, 43.

89. *Profits Soaring for Power Suppliers*, HOUS. CHRON., Dec. 17, 2000, at 17A.

2000, but Jeffrey Skilling, then Enron's president, told investment analysts that California had little impact on these results because Enron, owned no generating units in California.⁹⁰ Yet about one-quarter of all electricity trading in California's wholesale market is estimated to have gone through Enron's traders, with their "house advantage." Clearly, Enron had the opportunity to profit by buying and selling electricity during the crisis. According to several former Enron executives, Enron hid as much as \$1.5 billion in trading profits off its books during the crisis to quell the political firestorm that was developing.⁹¹ One Enron manager familiar with the California trading records disclosed: "There were days when we were making \$100 million. When you're making that kind of money you have to ask yourself, 'Are we the market?'"⁹²

Some of Enron's trades involved huge amounts of money. When a natural gas pipeline owned by El Paso exploded near Carlsbad, New Mexico, killing a family of twelve, Enron traders made almost \$500 million in that one day on the ensuing price spike.⁹³ Large, speculative trades involve large risks. In another instance, one Enron trader made a \$485 million gain on December 4, 2000—followed by a \$550 million loss on December 12 when gas prices unexpectedly plummeted.⁹⁴ All the while, Enron's top executives publicly asserted that they did not engage in speculative trading, but made money simply by being the middleman between buyers and sellers.⁹⁵

While the California market was roiling, the in-state generators and Enron launched one of the most successful public relations campaigns ever promoted by industry, a campaign to convince the American public and legislators that California's agony was due to a largely self-inflicted supply and demand imbalance coupled with a bit of bad luck from Mother Nature. California had actively prevented the building of new generating

90. David Barboza, *Former Officials Say Enron Hid Gains During Crisis in California*, N.Y. TIMES, June 23, 2002, at A1. If these profits had not been hidden in reserves, Enron would have doubled its reported profits. *Id.* The practice of using "cookie jar" or "prudence" reserves as a sort of slush fund to doctor quarterly earnings, especially to assure smoothly rising earnings reports, may violate securities laws, but accounting experts say that the subjectivity of prudence reserves under accounting standards makes them easy to manipulate "legally." *Id.*

91. *Id.*

92. *Id.*

93. *Id.* This is the same pipeline explosion that El Paso Corporation claimed as a defense to the allegations that it withheld supplies of natural gas California during the crisis, thus causing gas and power prices to soar. *See text infra* Section III(D).

94. Barboza, *supra* note 86, at A1.

95. *Id.*

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plants, electricity demand had soared, and a drought in the Northwest hydropower region hit at a particularly bad time. Also, Californians had a self-help remedy. If the state would just free retail prices from the rate freeze, consumers could respond to the higher price signals and conserve, thus bringing prices back down. California politicians were foolish not to see the virtues of a free market in energy at the retail level.

At the same time, Enron and others used their lobbying clout with Vice President Dick Cheney and members of FERC to argue against imposing wholesale price caps in the California market.⁹⁶ Prices should be allowed to signal scarcity in a free market. Only then would new entrants respond by building new plants or transmission lines to ease the supply shortage. The crisis was created by California and could be solved by it.

For many months, FERC, the only entity with jurisdiction over wholesale rates for power traded on the Power Exchange, refused to act.⁹⁷ Academics and private consultants found mounting evidence of the exercise of market power that could not be explained by normal supply/demand factors.⁹⁸ After almost seven months of market turmoil and blackouts, FERC took small steps to impose order beginning in November 2001, some of which made the situation worse.⁹⁹ Finally, in June 2001, a new Chairman of FERC, Pat Wood III, took decisive action, including the imposition of wholesale price caps on the entire eleven-state western region which operated under an interconnected grid, and the crisis ended.

Meanwhile, Governor Gray Davis and other California officials waged a vociferous and often strident public campaign branding merchant plants and energy traders as avaricious evildoers and manipulators who were threatening the public health, safety and jobs of all Californians. Because the energy market in California is not self-enclosed, price spikes spread to other western states on the interconnected grid. Eleven western governors urged President Bush to take action to end the market

96. Patty Reinert, *FERC to Focus on Enron's Role in Calif. Energy Crisis*, HOUS. CHRON., Feb. 1, 2002, at 1A. On April 17, 2001, Ken Lay met with Vice President Dick Cheney to discuss the California crisis and reportedly gave Cheney an eight-point memo that advised the administration to reject price caps, even temporary price caps. The day after the meeting, Cheney said price caps would not solve California's problems. *Id.* See also STAFF OF SENATE COMM. ON GOVERNMENTAL AFFAIRS, 108TH CONG., COMM. STAFF INVESTIGATION OF THE FERC'S OVERSIGHT OF ENRON CORP. 41-46 (Nov. 12, 2002) (discussing Enron's lobbying in more detail).

97. See Section IV *infra* (discussing FERC's actions in more detail).

98. See text *infra* accompanying notes 129 to 141.

99. See text *infra* accompanying notes 258 to 274 (describing these steps and their effects).

chaos.

Even those who sympathized with California's position that FERC must intercede to stabilize the market acknowledged that California's market design was itself fatally flawed. The design encouraged generators to withhold bidding of supplies into the day-ahead market. (The day-ahead market allows the ISO to project expected demand and supply so that the ISO can bring sufficient generating capacity and reserves on line from plants that might take several hours to start up.) Because of underbid supplies, when the next day arrived, the ISO would find itself short of supply and would then ask for bids to supply power into the hour-ahead or minutes-ahead, real-time markets. Knowing that the ISO was now fairly desperate, generators could bid high prices into these real-time markets with little fear that they would lose the sale to a competitor, particularly in areas where local market power existed in load pockets. As the California State Auditor explained in the title of its own March 2001 report on California's restructuring plan: "The Benefits of Competition Were Undermined by Structural Flaws in the Market, Unsuccessful Oversight, and Uncontrollable Competitive Forces."¹⁰⁰ Like other reports completed in 2001, the auditors did not see evidence of illegal market manipulation or collusion by generators. Energy marketers like Enron were not even discussed in the report. California had, unfortunately, created a system that allowed generators to bid strategically in ways that enriched the companies at the state's expense at a time when the state suffered from tight supply and high demand.

Not until after Enron's bankruptcy in December 2001 and subsequent investigations of its activities did evidence come to light showing all the schemes that Enron traders had invented to game the California system. Indeed, as late as April 2002, Enron's spokesman continued to assert that Enron had not manipulated prices and that California's problems were a result of its flawed deregulation system.¹⁰¹ Then, on May 6, 2002,

100. BUREAU OF STATE AUDITS, CALIFORNIA STATE AUDITOR, ENERGY REGULATION: THE BENEFITS OF COMPETITION WERE UNDERMINED BY STRUCTURAL FLAWS IN THE MARKET, UNSUCCESSFUL OVERSIGHT, AND UNCONTROLLABLE COMPETITIVE FORCES (No. 2000-134.1, Mar. 2001) available at <http://www.bsa.ca.gov/bsa/>. This report summarizes all the causes of the California crisis identified as of March 2001. *Id.* at 88. The actions involve generators, not traders.

101. Richard Stevenson, *Enron Trading Gave Prices Artificial Lift, Panel Is Told*, N.Y. TIMES, Apr. 12, 2002, at C1. Enron's denials came in response to a U.S. Senate Commerce Subcommittee hearing at which Loretta Lynch, chair of the California Public Utility Commission testified that Enron had engaged in sham trades of large volumes of electricity contracts with its own subsidiaries in order to drive up electricity prices. *Id.* California State Senator Dunn also testified that a review of Enron's trading documents

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almost two years after the California market started running amok, memos written by Enron's Oregon lawyers during the California crisis were given to FERC by Enron's bankruptcy attorneys and put on FERC's website.¹⁰² The impact was nothing short of stunning: California's rant against traders had real substance.

The outside lawyers' memos, written to help Enron prepare for the investigations and litigation that it expected to face soon,¹⁰³ were the first "smoking guns" to provide an inside look at the trading strategies used by Enron. The December 2000 memo, addressed to Richard Sanders, an assistant general counsel at Enron, outlined ten different strategies used by Enron traders and given colorful names in their dealings with other traders, such as: Death Star (a phantom power transfer), Get Shorty (sell high, buy low), Fat Boy (an artificial increase in demand), Ricochet (megawatt laundering), and Load Shift (trading loads). Many strategies involved structuring trades so that Enron could be paid congestion charges as high as \$750 per megawatt-hour, a price at which it was often profitable to sell power at a loss simply to collect the congestion fees.

The lawyers then summarized their understanding of whether the strategies helped to stabilize the grid or destabilize it and whether they were legal or not. For example, under one scheme, Enron would buy power at the maximum capped price of \$250 per megawatt-hour in California,¹⁰⁴ and then ship it outside California and sell it back to the state for \$1,200 per megawatt-hour. The lawyers concluded that "[t]his strategy appears not to present any problems, other than a public relations risk arising from the fact that such exports may have contributed to California's declaration of a State 2 Emergency yesterday."¹⁰⁵

showed that Enron traders bet on higher prices for summer 2000 giving them a motive to drive up the price. *Id.* Some Republicans remained skeptical, suggesting that Enron was being used as a whipping boy by California for its own botched market design. *Id.*

102. Enron's bankruptcy lawyers gave the memos to FERC, and Enron waived any attorney-client privilege regarding the memos.

103. The law firm memos were written after the California PUC obtained subpoenas for Enron documents and the California Attorney General threatened to prosecute Enron officials.

104. FERC did eventually institute wholesale price caps on electricity in California, but not in the surrounding states, thus creating an obvious incentive to export power and then re-import it.

105. Memorandum from Christopher Yoder & Stephen Hall of the Stoel Rives law firm to Richard Sanders, re: "Traders' Strategies in California Wholesale Power Markets/ISO Sanctions," dated Dec. 8, 2000, at 3, *available at* <http://www.ferc.gov/ferris> (Docket No. PA02-2-2000). This December 8 memo describes how Enron's traders adjusted their models to deal with the generators' strategy of underscheduling into the day-ahead market to raise prices on the real-time hourly and ten-minute markets.

The Ricochet scheme, under which Enron bought power from the Power Exchange, exported it out-of-state to another party who then charged a small fee and sold it back to Enron to sell back to the ISO in the higher-priced real-time market “may increase the Market Clearing Price by increasing the demand for energy.”¹⁰⁶ Another scheme was “obviously a loophole,” which the ISO could close if it simply stopped paying congestion charges to entities that failed to deliver energy.¹⁰⁷ The Load Shift scheme was found to increase congestion costs and increase costs to all market participants in the real-time market. The Get Shorty scheme required submitting false information to the ISO.

Some of these schemes seemed to violate ISO rules, although the lawyers’ memo did not directly analyze this issue. The memo simply quoted the ISO rules. The ISO tariff prohibited “gaming,” defined as “taking unfair advantage of the rules and procedures” of the PX or ISO; “taking undue advantage” of congestion or other conditions that may affect the grid’s reliability or render the system “vulnerable to price manipulation to the detriment of [the ISO Markets] efficiency;” or engaging in anomalous market behavior such as “pricing and bidding patterns that are inconsistent with prevailing supply and demand conditions.”¹⁰⁸

With the release of these memos, the world of energy trading would never be the same. The memos disclosed that the Enron traders told their lawyers that “everybody does this” when discussing some of the schemes.¹⁰⁹ The Washington trade group

106. *Id.* at 6–7.

107. *Id.* at 7.

108. *Id.* at 8. The second memo to Richard Sanders, assistant general counsel at Enron, was written by Gary Fergus and Jean Frizzell of the Brobeck law firm on the subject of “Status Report on Further Investigation and Analysis of EPRT Trading Strategies,” after they reviewed the December 8 memo and then met with Enron traders, including the head trader in the Pacific Northwest, Tim Belden. This later memo explained that some of the analysis of the impact of the trading schemes on electricity prices or supplies in the earlier memo was erroneous. After the memos were released, Robert McCullough, a consultant in the energy business, said that the lawyers’ descriptions of the trading activity were confused and distorted. Severin Borenstein, an academic expert, stated that some strategies were “pretty clear” violations of ISO rules. David Ivanovich, HOUS. CHRON., *Enron Opens Pandora’s Box*, May 12, 2002, at 1A. The FERC staff’s final report on price manipulation in the western markets, discussed in Section III(F) *infra* concluded that many of the strategies were indeed illegal.

109. Within days of the California trading revelations, the media reported what “everybody” appeared to already know, according to a J.P. Morgan Securities analyst: that the big energy trading companies like Aquila, El Paso Energy, Enron, and Reliant Resources, swapped broadband capacity in round-trip trades, also called wash trades, to give the impression that their operations had growing volumes and revenues. The companies repeatedly sold the same routes to each other at the same price on the same day. David Barboza, *Traders Also Swapped Broadband, Data Show*, N.Y. TIMES, May 17, 2002, at C1.

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representing the nation's independent power traders, the Electric Power Supply Association, quickly sought to distance itself from Enron's schemes, saying that they "cannot be condoned."¹¹⁰ Four large energy trading companies, Dynegy, Mirant, Williams and Duke, denied that they engaged in any illegal market manipulation.¹¹¹ On May 8, two days after the release of the memos, FERC gave 150 power marketers, independent generators and traders until May 22 to admit or deny under oath that they used trading strategies like those in Enron's lawyers' memos.

As a result of this order, transcripts of conversations (such as the one between Xcel and Mirant traders quoted at the beginning of this subsection of the article) began to appear on the FERC website. The traders in the Xcel transcripts said Williams and Duke regularly overscheduled load to create "tons of congestion."¹¹² Duke and Williams continued to deny that they had engaged in Enron-type trading, although Duke admitted that its financial statements included \$1 billion in revenue from wash trades that were done to "validate real-time prices," not to inflate revenue.¹¹³ The Securities and Exchange Commission began an investigation of El Paso, Williams and Duke centered on wash trades, also called round-trip trades, which inflated revenues. A federal grand jury investigation began in the Northern District of California and issued subpoenas to Dynegy, Southern Co., AES, Duke Energy, Mirant, Reliant and Williams.¹¹⁴ The world of energy trading was now locked in litigation and investigation.

Once the trading documents were made public, speculation began about the link between California's energy crisis and Enron's bankruptcy.¹¹⁵ When FERC finally stepped in decisively in June 2001 and imposed interstate power price caps throughout the eleven interconnected western states, California's crisis ended. Prices plunged. Five months later, Enron was bankrupt. If Enron had bet on power prices in California staying high for a long time and had lined up long-term contracts to buy power at

110. Richard A. Oppel, Jr., *How Enron Got California to Buy Power It Didn't Need*, N.Y. TIMES, May 8, 2002, at C1.

111. Will McNamara, *How Will the Smoking Gun Enron Memos Impact the Energy Industry?* UTILIPPOINT ISSUE ALERT, May 8, 2002, at 4, available at <http://www.utilipoint.com/issuealert>.

112. Neela Banerjee, *New Questions on Handling of Power Prices in California*, N.Y. TIMES, June 8, 2002, at B1.

113. *Id.*

114. *Id.*

115. Alex Berenson, *California May Have Had a Big Role in Enron's Downfall*, N.Y. TIMES, May 9, 2002, at C1.

high prices, the price drop would have been devastating to its pocketbook.

By August 2002, ten other companies had admitted to engaging in some of the trading games disclosed in the Enron memos.¹¹⁶ Spurred into action by the May release of the Enron memos which validated much of what California officials, legislators and the press had been finding in their own investigations, FERC finally began a serious review of the California power markets. FERC staff issued an initial report on price manipulation in the western markets in August 2002, followed by a final report in March 2003.¹¹⁷ These reports, described in more detail in Section III(F) of this article, list many more companies that FERC staff found cause to believe had illegally gamed the California markets in violation of the FERC-approved ISO rules.¹¹⁸

In mid-October 2002, Enron's lead trader in the California markets, Timothy Belden, pleaded guilty to counts of wire fraud for deliberately submitting false data to the California ISO.¹¹⁹ With Belden's plea came the discovery of just how brazen Enron's traders could be and how overmatched the regulators were in monitoring the market. In May 1999, Belden decided to test the limits of the state's grid to find loopholes that could be exploited.¹²⁰ A small geothermal plant in Beowawe, Nevada, generated 15 megawatts of electricity an hour, enough for a small town. This power was sent to Silverpeak, Nevada, where a Southern California Edison line carried it into California. On May 24, 1999, Belden made four bids to sell 2,900 megawatts of power to the California Power Exchange (PX) for next day delivery. The PX approved the bid and Belden told the ISO that Enron would use the Silverpeak line to move the electricity.

116. David Ivanovich & Janet Elliot, *The Fall of Enron: Regulators Find Evidence Prices Distorted by Enron, West Coast Deals Probed*, HOUS. CHRON., Aug 14, 2002, at 1A.

117. STAFF OF FEDERAL ENERGY REGULATORY COMMISSION, INITIAL REPORT ON COMPANY-SPECIFIC PROCEEDINGS AND GENERIC REEVALUATIONS; PUBLISHED NATURAL GAS PRICE DATA; AND ENRON TRADING STRATEGIES 83-100 (Aug. 2002) [hereinafter FERC INITIAL REPORT 2002] (Docket No. PA02-2-2000); and STAFF OF FEDERAL ENERGY REGULATORY COMMISSION, FINAL REPORT ON PRICE MANIPULATION IN WESTERN MARKETS: FACT-FINDING INVESTIGATION OF POTENTIAL MANIPULATION OF ELECTRIC AND NATURAL GAS PRICES (Mar. 2003) (Docket No. PA02-2-2000)[hereinafter FERC FINAL REPORT 2003].

118. See text *infra* accompanying notes 195 to 209.

119. Kurt Eichenwald & Matt Richtel, *Enron Trader Pleads Guilty to Conspiracy*, N.Y. TIMES, Oct 18., 2002, at C1. Belden told the judge that "I did it because I wanted to maximize profits for Enron." *Id.* With his plea, he returned \$2.1 million, a portion of the bonuses that he had received from Enron. *Id.*

120. John R. Wilke & Robert Gavin, *Brazen Trade Marks New Path of Enron Probe*, WALL ST. J., Oct. 21, 2002, at C1.

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However, the Silverpeak line is only big enough for 15 megawatts, so a load of 2,900 megawatts would explode the transformers or possibly melt the power lines. The automated software system running the grid would read this bid as causing congestion. Belden would then relieve the congestion and get paid for doing so. This one trade drove up the price of electricity by more than 70 percent that afternoon across the state. An ISO operator reported the anomalous trade to the compliance unit of the state's PX. Enron was fined \$25,000 while California electricity customers were overcharged by \$4.6 million to \$7 million that day. A single fraudulent trade could destabilize the whole market. The traders had learned a lot. Between 1999 and 2001, revenues at Belden's trading unit rose from \$50 million to \$800 million.¹²¹

Enron's lawyers appear to have told Enron executives in December of 2000 that these schemes were potentially criminal. On December 10, Enron's assistant general counsel, Richard Sanders, ordered them stopped. Sander's order, however, was never put in writing.¹²² Enron executives, referring to these schemes at the December meetings in Portland, Oregon, noted in handwriting that "[n]o one can prove, given the complexity of our portfolio," and then ordered that the notes be removed.¹²³ It appears that the traders continued to use these strategies until FERC imposed a price cap on all energy sales in the Western region in June of 2001, some six months after the traders were warned that some of their acts might be criminal.¹²⁴

C. *Withholding Generating Power*

"We decided the prices were too low . . . so we shut down."

"Excellent. Excellent."

"We pulled about 2,000 megs off the market."

"That's sweet."

"Everybody thought it was really exciting that we were gonna play

some market power."

"That was fun!"

Exchange between Reliant traders, June 2000.¹²⁵

121. *Id.* at C12.

122. Harvey Rice, *Enron Was Told Strategy in California Could Be Illegal*, HOUS. CHRON., Dec. 12, 2002, at 1A, 20A.

123. Richard A. Oppel Jr., *Despite Doubters, Enron Waited to Stop Its Trades, Senate Is Told*, N.Y. TIMES, May 16, 2002, at A1.

124. Rice, *supra* note 122, at 20A.

125. Ken Silverstein, *Reliant Settlement Accelerates Justice*, UTILIPOINT ISSUE

“The capitalists are so hungry for profits that they will sell us the rope to hang them with.”

V. I. Lenin 1920.¹²⁶

The gaming tactics revealed by the release of the Enron memos in May 2002 were those of a trader, not an electricity generator. The tactics aimed largely at affecting the price of electricity in California rather than the actual physical supply of energy produced in the state. After all, Enron was largely a trader, not a generator, although it owned one utility in Portland, Oregon that could be used in some of its gaming tactics. The California ISO, in a November 2002 report, concluded that Enron’s trading schemes had not caused blackouts.¹²⁷ Experts believed that the big money—billions of dollars rather than mere millions—was made, not by traders, but by the electricity suppliers, the owners of power plants, through two mechanisms: (1) physical withholding, i.e., simply not running power plants that could be run to meet market demand; and (2) economic withholding, i.e., bidding supplies into the market only at very high prices or refusing to bid supply into the day-ahead market, thus forcing the ISO to buy power in the real-time market where it would pay any price in an effort to avoid blackouts.¹²⁸ Because of the structure of the California market, generators could strongly affect prices by engaging in these two forms of withholding, even without colluding in any manner that might

ALERT, Feb. 12, 2003, at 2, available at www.utilipoint.com/issuealert. The transcripts of these exchanges were made public as part of FERC’s \$13.8 million settlement with Reliant for Reliant traders’ withholding supply for two days in June 2000. Transcripts between a Williams trader and AES, a generator, also reveal discussions about withholding power with a feigned maintenance shutdown which would allow Williams to make more money by supplying replacement power. *Shares in Tulsa, Okla.-Based Energy Firm Sink After Release of Documents*, KNIGHT RIDDER NEWS, Nov. 16, 2002 (ECP online).

126. John E. Olson, *Energy Markets at a Crossroads: Has Deregulation Failed?*, address at the Int’l Ass’n of Energy Economists Conference, Houston, Texas (Dec. 12, 2002) (quoting Lenin) (handout in author’s files).

127. The ISO’s report attributed the blackouts to supply and demand imbalances and lack of transmission capacity between southern and northern California. The report concluded that the trading schemes affected power prices, but not system reliability. DR. ERIC HILDEBRANDT, CALIFORNIA INDEPENDENT SYSTEM OPERATOR, DID ANY OF ENRON’S TRADING AND SCHEDULING PRACTICES CONTRIBUTE TO OUTAGES IN CALIFORNIA? (Nov. 15, 2002) available at www.caiso.com. The ISO report became embroiled in controversy with state Senator Dunn of California, who was investigating the California energy crisis with great determination, and Robert McCullough, a private consultant, who had his own version of events. See text *infra* accompanying notes 132 to 145.

128. David Ivanovich, *Enron Opens a Pandora’s Box*, HOUS. CHRON., May 12, 2002, at 1A, 18A (quoting Severin Borenstein); see also FERC INITIAL REPORT 2002, *supra* note 117, at 83.

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violate the antitrust laws.

Reliable evidence that substantial market power could be exercised in California's electricity sector was found only a few months after the California crisis began in May 2000. In September 2000, economists from the University of California Energy Institute issued a report finding evidence that market power had raised electricity prices about 16 percent above competitive levels between June 1998 and September 1999.¹²⁹ Their analysis used assumptions which would tend to underestimate the degree of market power exercised. The study raised a red flag warning of dire danger ahead. By the time the study was released in September 2000, California was already deep in the danger zone. Electricity prices during the summer of 2000 had soared to unimaginable heights of \$200, \$400, \$500, and even \$800 per megawatt-hour (compared to a normal price of about \$35 per megawatt-hour).¹³⁰

In January 2001, two reports appeared analyzing the post-May 2000 power crisis in California: one in a widely read trade publication and the other on the website of the AEI-Brookings Joint Center for Regulatory Studies. The first report was by an independent consultant, Robert McCullough, titled "Price Spike Tsunami: How Market Power Soaked California."¹³¹ Going against the prevailing public opinion campaign then being waged by the industry, FERC Commissioners, and the executive branch, McCullough asserted that all explanations about the price spikes which relied solely on drought, increased electricity demand and increased natural gas prices were wrong.¹³² Indeed, the Western System Coordination Council (WSCC)'s "2000 Summer Adequacy Report," published on May 25, 2000, three days after the first price spike, indicated that sufficient resources existed in both California and the entire western region, with a satisfactory

129. SEVERIN BORENSTEIN ET AL., DIAGNOSING MARKET POWER IN CALIFORNIA'S RESTRUCTURED WHOLESALE ELECTRICITY MARKET (National Bureau of Econ. Research, Working Paper No. 7868, Preliminary Report, Sept. 2000). Two of the authors were the same economists who had issued so many caution flags about deregulating energy markets without adequate attention to local market power. See text *supra* accompanying notes 78 to 85.

130. CALIF. PUBLIC UTILITY COMM'N, REPORT ON WHOLESALE ELECTRICITY GENERATION INVESTIGATION 12 (Sept. 2002).

131. Robert McCullough, *Price Spike Tsunami: How Market Power Soaked Calif.*, PUB. UTIL. FORTNIGHTLY, Jan. 1, 2001, at 22-32.

132. *Id.* at 25. McCullough's report presented the following data: From May to August 2000, Columbia River inflows were at 98 percent of their historical average, hardly a drought condition. Regional load demand in May 2000 was lower than loads during several previous months, and roughly equivalent to the load in May 1999. In May 2000, hydroelectric generation from the Columbia River was 120 percent of the May averages from 1986 through 1999.

margin of 15 percent.¹³³

McCullough attributed the price spikes to the California ISO's letting itself be gamed by the merchant power plant generators that did not have an obligation to serve a franchised area (as did the previous utility-owned generators). The ISO issued emergency alerts for power whenever offers of supply bid into the day-ahead market were insufficient to meet its reliability criteria in that market. The next day, sellers averted the declared emergency by finding electricity supplies but only at "murderous" market-clearing prices in the real-time markets. The mystery, to McCullough, was why the ISO allowed itself to be so repeatedly deceived. The ISO board did consist of a substantial number of representatives from generating companies, calling into question its status as an "independent" system operator.¹³⁴

McCullough also noted that the pattern of capacity utilization of generating units was very odd. Cleverly using data from the EPA's Acid Rain database of power plant emissions from generation and a WSCC database that no regulators appeared to have looked at, McCullough concluded that the California market had deviated from any normal pattern of utility practice. Generators did not generate, peakers did not peak, and emergencies lacked justification.¹³⁵ The ISO and Power Exchange did not exchange data between them, and operated on automatic pilot, rather like Hal the computer in the movie "2001: A Space Odyssey." Divestiture had put generating capacity in the hands of only a few companies.¹³⁶ Generators could simply reverse-engineer the computer software and game the system with strategic bidding. Indeed, the ISO collected and distributed the hourly operating data for its generating suppliers, so each company knew the production levels of its competitors.

The second January 2001 study used an entirely different methodology of analyzing the California market. Paul Joskow, a professor of economics and management at M.I.T. and Edward Kahn, an expert consultant, simulated competitive benchmark wholesale prices for electricity in California during summer 2000, taking into account changes in the four market fundamentals—

133. *Id.* at 26.

134. *Id.* A few months later, FERC issued a series of proposed remedies for the California wholesale electric market, including the removal of generator representatives from the ISO board. *See* San Diego Gas & Elec. Co., 93 FERC ¶ 61,121 (Nov. 1, 2000).

135. McCullough, *supra* note 131, at 30. Peakers are power plants that are brought online only during periods of peak demand. They are almost always gas-fired power plants that can be started up very quickly.

136. *See* BUSHNELL, *supra* note 71.

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natural gas prices, demand, imports of electricity from other states, and changes in the prices of nitrogen oxide (NOx) emission permits—which had been identified as the root causes of the soaring prices.¹³⁷ While these factors were found to explain a significant percentage of the changes in wholesale electricity prices, a large unexplained difference remained.¹³⁸ The two economists then examined whether the abnormally high prices were due to physical withholding of supplies by generators during peak hours. Using some of the same databases as McCullough, their preliminary conclusion was that unexplained “output gaps” strongly suggested physical withholding.¹³⁹ Something other than “market fundamentals” was at work in California. In a later study, the California economists from the energy center at Berkeley estimated that 51 percent of total electricity expenditures in the summer of 2000 could be attributed to market power, usually exercised during peak demand periods.¹⁴⁰

On April 1, 2002, Robert McCullough revisited his earlier study of market power in California.¹⁴¹ By this time, no one denied that physical or economic withholding of supply to inflate prices had occurred. The only issue was whether the withholding was done legally or illegally under the market rules set up by the ISO, FERC and antitrust laws. His report again lambastes the California ISO for its passive market surveillance, FERC for its “appalling indecision,”¹⁴² and the WSCC for its failure to release

137. PAUL L. JOSKOW & EDWARD KAHN, A QUANTITATIVE ANALYSIS OF PRICING BEHAVIOR IN CALIFORNIA'S WHOLESALE ELECTRICITY MARKET DURING SUMMER 2000 (AEI-Brookings Joint Center for Regulatory Studies, Working Paper 01-01, 2001). Paul Joskow is a professor in M.I.T.'s Center for Energy and Environmental Policy Research. This Working Paper was based on research commissioned by Southern California Edison Co.

138. *Id.* at 16–17. Actual electricity prices ranged from 20 percent to 50 percent higher than competitive prices in June, July, and August 2000 when NOx prices were highest.

139. *Id.* at 22–33.

140. SEVERIN BORENSTEIN ET AL., MEASURING MARKET INEFFICIENCIES IN CALIFORNIA'S RESTRUCTURED WHOLESALE ELECTRICITY MARKET (Feb. 2002 Working Paper), subsequently revised and replaced by BORENSTEIN ET AL., MEASURING MARKET INEFFICIENCIES IN CALIFORNIA'S RESTRUCTURED WHOLESALE ELECTRICITY MARKET (Univ. of Calif. Energy Inst., CSEM WP 102, June 2002)(concluding that increased market power accounted for 59 percent of the increased cost of electricity). The General Accounting Office summarized five studies, all of which found the exercise of substantial market power caused uncompetitive prices in California, in U.S. GENERAL ACCOUNTING OFFICE, RESTRUCTURED ELECTRICITY MARKETS: CALIFORNIA MARKET DESIGN ENABLED EXERCISE OF MARKET POWER 36–37, app. III (GAO-02-828, 2002).

141. Robert McCullough, *Revisiting California: Market Power after Two Years*, PUB. UTIL. FORTNIGHTLY, Apr. 1, 2002, at 28.

142. *Id.* at 29.

data that could have helped analyze the markets. The ISO had no good log of plant outages and did not know if electricity was being exported out-of-state (to avoid price caps) or if generating units were experiencing abnormal bouts of maintenance shutdowns. New data showed that plants in the ISO control area were operating far below the levels of similar plants elsewhere in the western region. While some commentators blamed cutbacks in generating units on local air pollution rules, the air control authorities had acted quickly and aggressively to allow diesel generators into the market. The data indicated that Duke, Dynegy, Mirant, Reliant, and AES had operated at about 50 percent of capacity from May 2000 to June 2001.¹⁴³ Their plants were not dispatched at peak, even during ISO-called emergencies. Whistleblowers from the plants' staff found instructions from management inexplicable. FERC's preliminary investigation in February 2001 of the abnormal plant outages of these five generators was done by inexperienced staff with little expertise and without access to information on individual plants.

The clarity of the evidence led McCullough to one striking conclusion: If FERC had intervened knowledgably in the California markets in May 2000 and imposed a western-wide price cap and a "must offer" rule to counter the generators' strategic withholding of bids and supplies, the entire California energy crisis would have been avoided. While some of the analysis and conclusions of McCullough's report may well be overstated, its "big picture" view of the market power of generators and the lagging role of regulators is supported by many other reports.¹⁴⁴

When the Enron memos were released a month later, in May

143. *Id.* at 31.

144. The issue of widespread physical withholding of generating supplies has proved difficult to document. A report by the California Public Utility Commission on withheld power concluded that if Duke, Dynegy, Mirant, Reliant and AES/Williams had operated all of their plants at available capacity, all four days of blackouts would have been avoided in Southern California and 65 percent of blackout hours would not have occurred in Northern California. CALIF. PUBLIC UTILITY COMM'N, REPORT ON WHOLESAL ELEC TRICITY GENERATION INVESTIGATION (Sept. 17, 2002). The California ISO, its reputation under attack, disagreed with aspects of the CPUC report although it admitted that the power plant operators routinely ignored ISO instructions and sometimes "feigned" pollution limits to justify shutdowns. Rick Jurgens, *California Electricity Grid Operators Dispute Regulator's Report Methodology*, CONTRA COSTA TIMES, Oct. 29, 2002 (ECP online). Dynegy, Duke and AES/Williams continued to assert that they had not withheld power. John M. Browder, *California Power Failures Linked to Energy Companies*, N.Y. TIMES, Sept. 18, 2002, at A16. At the request of California Senator Barbara Boxer, FERC reviewed the data in the CPUC report and concluded that it was inaccurate, although FERC cautioned that its own analysis was limited in many ways. See text *infra* accompanying notes 213 to 219.

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2002, it appeared that no regulators at either the state or federal level had been ready, willing or able to monitor the California power markets in a way that merited the public trust. Private consultants and academics seemed far ahead of the regulators in their understanding of the power markets. However, even the academics had not discovered a pervasive strategy used by marketers to manipulate power prices during the California meltdown. In attempting to confirm some of McCullough's statements, a newly energized FERC discovered that natural gas prices, the key input in the cost of generating electricity, had been misreported and manipulated to favor the trading positions of traders in the gas markets. This stunning development surfaced in FERC's initial staff report on western price manipulation, released in August 2002, and is discussed *infra* in Sections III(E) and (F) of this article.

D. Affiliate Abuse in the Gas Pipeline Sector

When FERC required unbundling of natural gas pipelines, separating their merchant function (of buying and selling gas) from their pipeline transportation function, FERC did not require the physical divestiture of pipeline assets, but only the "functional" divestiture of separating the operations of the two different activities with a "firewall." Most pipeline companies established marketing affiliates. FERC's task then was to enforce rules of nondiscrimination that prevented a pipeline company from favoring its own marketing affiliate with sweetheart deals that gave its affiliate's gas an advantage in securing pipeline space, especially during shortages, or which gave price discounts to its affiliate that were not available to others.

Natural gas now plays a crucial role in electricity markets. Much of the new generating capacity built in the past decade uses natural gas rather than coal or nuclear because of recent technological efficiencies in combined-cycle gas turbines, as well as the clean air benefits of burning gas rather than coal. Thus, nondiscriminatory, open access to pipeline capacity to transport natural gas to power plants is essential for competitive markets in both gas and electricity to work.

In April 2000, a month before the California energy crisis began, the California Public Utility Commission (CPUC) filed a complaint with FERC charging that El Paso Pipeline and its merchant affiliate had engaged in anticompetitive practices and affiliate abuse, in violation of FERC's Standards of Conduct for pipeline operations. This episode is a case study of the

difficulties of using behavioral rules to police large, diversified energy holding companies in deregulated markets.¹⁴⁵

In February 2000, El Paso Pipeline put a large block of capacity on its pipeline up for auction. Two of its own merchant affiliates outbid other bidders and won all 1.22 billion cubic feet of capacity, even though the rates that they offered to pay for the service were below the level set in El Paso Pipeline's tariff published with FERC. The CPUC's complaint to FERC charged that this auction allowed El Paso Merchant, as the largest holder of pipeline capacity (one-sixth of the pipeline capacity into California), to exercise market power and raise the price of gas brought into the state, with a projected financial impact of \$100 million on gas and electric consumers.

No sooner was the complaint filed than the energy crisis began in May 2000. On March 28, 2001, FERC found no evidence of affiliate misconduct in the award of capacity or the grant of discounts. However, FERC stated that it was concerned about the high gas prices because it had seen certain internal El Paso memos, protected by confidentiality during discovery, that allegedly showed an intent by the pipeline company and its merchant affiliate to manipulate California's gas and electricity markets. FERC ordered an expedited hearing on this issue.¹⁴⁶

The case proved to be much more complex than the Chief Administrative Law Judge Curtis Wagner had anticipated. After months of hearings and media attention, Judge Wagner issued his initial decision in October 2001, concluding that El Paso Pipeline and El Paso Merchant had the ability to exercise market power, but that it was unclear whether they had actually done so. He recommended that this part of the complaint be dismissed. However, he did find clear evidence that the El Paso companies were guilty of affiliate abuse and had violated FERC's Standards of Conduct prohibiting communications between the two affiliates. He saw "hanky panky" and "blatant collusion" in the transcript of a phone conversation between El Paso Merchant and El Paso Pipeline personnel, in which the affiliates agreed to keep the discounts secret until the open season for bidding for the block of capacity had ended.¹⁴⁷ Indeed, the firewall that was to keep the two companies functionally "unbundled" seemed nonexistent. Also, sitting at the very top of the firewalled

145. This account of El Paso's actions is taken from AMERICAN BAR ASS'N, SECTION ON ENV'T, ENERGY & RESOURCES, ELECTRIC & NATURAL GAS COMM., THE YEAR IN REVIEW 2001 REPORT, tab A, at 6-10 [hereinafter cited as ABA 2001 REPORT]. Refer to this report for the complete docket citations of the FERC rulings described in the text.

146. *Id.* at 8.

147. *Id.* at 8-9.

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companies was William Wise, the president of El Paso Corporation, the parent holding company, and he had approved El Paso Merchant's bid to acquire the capacity from El Paso Pipeline.

FERC's Market Oversight and Enforcement Section filed post-hearing comments asserting that the record suggested possible violations of FERC's open access regulations. The FERC Commissioners ordered additional hearings on the issue of whether El Paso Pipeline had made all its capacity available to California from November 1, 2000, to March 31, 2001. The spot price for natural gas delivered at the Southern California border during this time had skyrocketed to \$20-\$30 per million BTUs, with spikes as high as \$60.¹⁴⁸ Moreover, when the contract between El Paso Pipeline and El Paso Merchant ended on May 31, 2001, natural gas prices dropped in California almost immediately.¹⁴⁹

The subsequent March 2002 hearings resulted in 14 volumes of transcripts of evidence. The Chief Judge concluded that El Paso Pipeline had failed to schedule all of the pipeline capacity that it posted and failed to post all of the capacity that it had available to transport gas into California, as required by FERC's open access rules. El Paso's pipeline had operated at only 79 percent of its capacity, even after accounting for the Carlsbad explosion¹⁵⁰ and El Paso's claim of "sick compressors." Therefore, the Chief Judge modified his 2001 Initial Decision and found that El Paso had exercised market power by withholding gas.¹⁵¹

Evidence released at this hearing made media headlines, countered by full-page ads purchased by El Paso in nationwide newspapers. Some of the released transcripts, for example, showed that in a February 2000 presentation to Chair and CEO

148. Docket No. RP00-241-006. Natural gas prices had been in the range of \$2 to \$3 per million BTU (British Thermal Unit). A study by the Brattle Group, energy consultants for Southern California Edison, estimated that El Paso boosted natural gas and electric prices by \$3.7 billion from March 2000 to March 2001. Alexei Barrionuevo, *Hearing Could Shape Future of Energy Company El Paso*, WALL ST. J., Dec. 2, 2002.

149. Ken Silverstein, *El Paso Energy in Crisis Mode*, UTILIPOINT ISSUE ALERT, Sept. 26, 2002, available at <http://www.utilipoint.com/issuealert>.

150. This is the same pipeline explosion that is reported to have resulted in trading profits to Enron of almost \$500 million dollars in one day. Federal regulators in the Office of Pipeline Safety proposed a \$2.52 million fine against El Paso Pipeline for violating safety regulations related to the accident. El Paso failed to use X-ray or sonar equipment on the outside of the pipeline to look for corrosion, even though a company investigator had recommended such a survey following a similar, but not deadly, accident in 1996. Alexei Barrionuevo & Stephen Power, *El Paso Corp. Is Focus of Probe into Fatal Pipeline Rupture*, WALL ST. J., Nov. 15, 2002, at B4.

151. FERC Docket No. RP00-241-006 (Initial Decision by Judge Curtis L. Wagner Jr.) (Sept. 23, 2002).

William Wise, an official of the merchant energy unit discussed the “ability to influence the physical market to the benefit of any financial hedge/position.”¹⁵² Another document described a February 2000 presentation to El Paso’s risk management committee that discussed ways to boost profits by “idling large blocks of transport.”¹⁵³ In defending his company at the hearings, Wise dismissed the documents as “just part of the day-to-day business planning of a large corporation,” and then stated that “no inappropriate information ever gets communicated in our company between those two segregated segments of our business.”¹⁵⁴ El Paso also pursued a massive public letter-writing campaign to FERC and legislators, asserting that its pipeline to California had to run at lower pressure for safety reasons after the explosion. Indeed, the Office of Pipeline Safety of the Department of Transportation confirmed, after the hearings had concluded, that it had imposed an order setting pressure limits on the pipeline.¹⁵⁵ It is unclear why this information from the pipeline safety office was not presented at the hearing.

Just days before FERC was expected to issue a final order on the El Paso pipeline issue, El Paso agreed to a \$1.7 billion payment to the state of California to settle the charges of withholding pipeline capacity to that state.¹⁵⁶ If approved by FERC, this payment, the largest ever made by a regulated energy company,¹⁵⁷ will remove these issues from FERC’s agenda. Investors considered a settlement to be crucial to El Paso’s survival.¹⁵⁸

152. *FERC Releases El Paso’s California Strategy Documents*, REUTERS, Dec. 2, 2002 (ECP online).

153. *Id.*

154. *Id.* An El Paso attorney said there was no evidence that Wise violated FERC rules against sharing information between its merchant and its pipeline affiliates in an attempt to influence the physical market to benefit El Paso’s trading position. Meanwhile, El Paso engaged in a huge lobbying effort to defeat new affiliate abuse rules proposed by FERC, as discussed *infra* in Section V(B)(3).

155. Michael Davis, *Investors Bid El Paso Shares Up*, HOUS. CHRON., Nov. 22, 2002, at 1C.

156. Laura Goldberg, *El Paso to Pay \$1.7 Billion in California Scheme*, HOUS. CHRON., Mar. 21, 2003 (ECP online)(describing the settlement as requiring El Paso to deliver \$900 million of natural gas to California over the next 20 years; reduce by \$125 million the cost of a long-term energy contract with the state; provide California with a certain amount of firm capacity on its pipeline for five years; pay the state \$2 million from a bonus pool paid to El Paso executives; and pay \$225 million in cash and \$440 million over 20 years. Some of the payments will go to Nevada, Oregon, and Washington, each of which also faced higher energy prices. Some payments, if approved by various courts, will also settle civil lawsuits against El Paso).

157. Alexei Barrionuevo & Rebecca Smith, *El Paso Reaches Pact to Settle California Case*, WALL ST. J., Mar. 21, 2003.

158. If the settlement is approved, the California Attorney General will drop its

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El Paso was not the only pipeline charged with affiliate abuse. In a less publicized case, FERC found that Enron's Transwestern Pipeline Company gave preferential treatment to two of its customers to allow them to ship gas into California at the height of the California crisis.¹⁵⁹ Additionally, just before the El Paso settlement was announced, Williams agreed to pay a \$20 million fine to FERC to resolve allegations that its Transco Pipeline gave preferential treatment to its energy-trading affiliate from 1999 to the present. FERC had discovered that Williams' computer system allowed marketing employees to gain access to Transco's confidential shipping information, giving it an advantage over other competitors. As in El Paso's settlement, Williams did not admit wrongdoing. Its spokesperson said that company officials "don't think that the information was used for any harmful purpose" and violations were "unintentional and inadvertent."¹⁶⁰ The settlement bars Williams' trading affiliate from buying gas for shippers using the Transco line after April 2005, but Williams was planning to exit the gas trading and marketing business anyway.

As an American Bar Association report concluded, the lengthy hearings in the El Paso case show the difficulty of detecting and proving the exercise of market power.¹⁶¹ More troublesome, the FERC affiliate rules at issue in these hearings were enacted before large mergers in the gas industry created holding companies like El Paso Corporation. In the report's view, the hearings speak to the need for more control over affiliates of holding companies, especially when the magnitude of the transactions between them is so large. FERC's settlement of affiliate abuse charges with two other pipeline companies shows that the problem was not an isolated one. FERC's efforts to prevent affiliate abuse through reform of its code of conduct regulations is now tangled up in claims by industry that the reforms would violate the new disclosure rules enacted by the Sarbanes-Oxley Act. The reform issue is discussed in Section V(B)(3) *infra*.¹⁶²

antitrust investigation into El Paso and the California PUC will drop its claim before FERC. However, El Paso will still face other lawsuits. In addition, during this time, El Paso was subject to a formal proxy fight by dissident stockholders seeking to oust the existing management. The dissidents ultimately lost, but the proxy battle was hard-fought and expensive.

159. David Ivanovich, *Enron Subsidiary Cited for Abuses*, HOUS. CHRON., July 18, 2002, at 1A.

160. David Ivanovich, *Hefty Fine by FERC Seals Deal*, HOUS. CHRON., Mar. 17, 2003 (ECP online).

161. ABA 2001 REPORT, *supra* note 145, at 10.

162. See text *infra* accompanying notes 311 to 317.

E. *Manipulating Gas and Electric Price Indices*

“The process [of reporting gas and electricity prices], based on trust, is a potential minefield for manipulation.”

Reuters, October 2002.¹⁶³

“The erosion of confidence in the gas indices that has taken place . . . may well impede the benefits that customers get from this industry.”

FERC Chair Pat Wood III, January 2003.¹⁶⁴

With the release of the Enron trading memos in May 2002, FERC stepped up its efforts to police the industry and to rid it of any more scandals so that it could be rebuilt on a firm foundation. In June 2002, FERC Commissioner Nora Brownell invited industry participants to come forward and admit their involvement in manipulative trading schemes by “visiting the confessional” in FERC’s headquarters, where its new Office of Office of Market Oversight and Investigation (OMOI) was located.¹⁶⁵ Both she and FERC Chairman Pat Wood III began visits to Wall Street to encourage investment in energy infrastructure despite the plunging credit ratings of energy trading and merchant generating companies, pledging an “end to the series of surprises” that had been revealed throughout 2002.

Yet, a fourth bombshell exploded just a few short months later. In August 2002, the FERC staff released a preliminary report finding that substantial evidence existed that the published prices for natural gas sold into the spot market at the California border might have been manipulated.¹⁶⁶ This new scandal went far beyond price manipulation by any one pipeline owner and its affiliated marketer. Rather, it implicated the very heart of all effective markets: the transparency of price data that allows buyers and sellers to know whether a deal is a good one. Literally billions of dollars of natural gas and electricity contracts have been priced in reliance on the accuracy of published spot prices in industry publications such as *Inside FERC* and *Gas Daily*. If these price data had been manipulated, contracting parties who had thought they were buying at a price

163. *AEP Cracks Down on Traders in Bid for Credibility*, REUTERS, Oct. 9, 2002.

164. Chris Baltimore, *FERC Staff Urge Strict Standards for Natgas Indices*, REUTERS, Jan. 15, 2003 (ECP online).

165. Stephanie M. Ingersoll, *Brownell Urges Confessions for Power Industry; Sees End to Industry Surprises*, DAILY REP. FOR EXECUTIVES, June 21, 2002, at A-38.

166. FERC INITIAL REPORT 2002, *supra* note 117, at 33–57 (Docket No. PA02-2-000).

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set by competitive market forces would be incorrect.¹⁶⁷ The prices in the published indices are gathered by reporters for trade publications (such as Platts and Bloomberg) who phone traders daily, soliciting the prices at which gas sales were actually transacted that day. If traders lie, and the reporting services do not catch the lies, then the published prices will not reflect the market. As the FERC staff concluded:

Certainly, there is a significant incentive on the part of certain market participants to deliberately misreport prices, given that natural gas is the fuel input for the electricity generators that set the market price in California and the rest of the West. Unscrupulous traders could manipulate natural gas price indexes in order to increase the profitability of their electricity positions. The means by which this misreporting could occur is actually quite simple. Traders overstate prices to the reporting firms, which in turn publish price data that incorporate the overstated prices. Buyers and sellers cannot verify those prices . . . [but they] assume that the published prices are accurate.¹⁶⁸

Data presented at an April 2002 Congressional hearing showed that Enron had traded significant volumes of electricity among five of its own subsidiaries, four of which had the same board of directors and executives and were staffed in some cases

167. See Craig R. Carver, *Natural Gas Price Indices: Do They Provide a Sound Basis for Sales and Royalty Payments?*, 42 ROCKY MTN. MIN. L. INST. 10–15 (1996) (describing problems with bias and coverage in these indices several years before the scope and reality of the problems surfaced).

168. FERC INITIAL REPORT 2002, *supra* note 117, at 47. FERC's inquiry into the price indices was triggered by Robert McCullough, the private energy consultant who had written widely publicized studies on generator withholding and regulatory failures in data gathering and marketing, discussed in the text *supra* accompanying notes 131 to 144. In early January 2002, McCullough testified that the day after Enron filed for bankruptcy protection, prices in the futures market for West Coast energy fell by 30 percent. He believed that Enron had been using its market dominance to set the forward price which collapsed when Enron toppled. Stephanie M. Ingersoll, *Enron Rate Investigation Requested by Davis*, DAILY REP. FOR EXECUTIVES, Feb. 1, 2002, at A-24. FERC Chair Pat Wood III initiated an investigation. Jeanne Cummings, *U.S. Probes Enron's Effect on Power Prices*, WALL ST. J., Jan. 30, 2002 (online). The FERC staff reported that McCullough's 30 percent number was incorrect and that much of the price drop was attributable to seasonal factors. However, the staff could not explain the discrepancies in price data between that reported by Platts and that reported by Bloomberg, meaning that the staff could not ascertain what the actual price of electricity was during the days after Enron declared bankruptcy. FERC INITIAL REPORT 2002, *supra* note 117, at 37–41.

by the same employees.¹⁶⁹ By trading back and forth between each other, the traders inflated the price which would then get reported as a market price in published indices. This “wash” trading, round-trip trading, or “megawatt laundering” is deceptive because it gives the illusion of a deep market which leads buyers to assume they are getting a competitive price in a liquid market, when this is not true. Loretta Lynch, Chair of the California PUC, testified that Enron’s trades among its subsidiaries led to increased revenues being reported on EnronOnline at artificially high prices, which were then used by other buyers and sellers as benchmark prices, inflating the published indices. The Securities and Exchange Commission (SEC) was already heavily involved in investigating allegations of round-trip trading that boosted companies reported trading volumes and revenues. A new Task Force of FERC, SEC, Commodity Futures Trading Commission (CFTC), and Department of Justice officials began investigations centered on the effect of wash trading on market prices of energy.¹⁷⁰

The inaccuracy of the reported price indices for gas and electricity strongly impacted FERC’s docket devoted to determining whether generators and gas suppliers should refund money to California consumers. California officials seek about \$9 billion in refunds to consumers based on unjust and unreasonable rates paid to generators during the energy crisis. If manipulated, the reported spot prices for gas at California delivery points would not be appropriate for use in computing the mitigated market clearing price of electricity in the refund proceedings. Since such a high percentage of California’s power plants run on natural gas, if gas prices were artificially inflated, then the price of electricity would also be artificially raised.

The August 2002 FERC staff report found that the spot price for natural gas at the California border published in trade publications differed enormously from the spot price of gas at producing basins (largely in Texas) or from the spot price at the large market and transport center for gas called the Henry Hub in Louisiana.¹⁷¹ The abnormal spread between these numbers suggested that natural gas prices were manipulated between

169. Stephanie M. Ingersoll, DAILY REP. FOR EXECUTIVES, *California Claims Enron Manipulated Prices, Doctored E-Mails Given to State*, Apr. 12, 2002, at A-35.

170. A Senate Governmental Affairs Committee report found that Enron successfully exploited regulatory voids among FERC, the SEC and the CFTC because none of the agencies communicated with each other about developments in the quick moving, deregulated power markets. John J. Fialka, *Jurisdiction Issues Put Off Regulatory Action on Enron*, WALL ST. J., Nov. 12, 2002 (online).

171. FERC INITIAL REPORT 2002, *supra* note 117, at 63–74.

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October 2000 and July 2001. FERC could not verify that the reported prices in the widely used industry publications for gas sold on the spot market during this time were based on actual, real trades between arms-length parties. Thus, the published prices could not be used to determine refunds to California purchasers. Instead, the FERC staff recommended a redefinition of the benchmark price for electricity sales for refund purposes. The new proposed benchmark price would equal the actual cost of gas in producing basins like the Texas Permian Basin, plus the transportation tariff to ship the gas to the California border.¹⁷²

The FERC staff also questioned the prices that had been posted on EnronOnline the e-commerce trading platform.¹⁷³ Many participants closely watched the prices listed there assuming they reflected the market. An obvious circularity existed in this arrangement: Traders relied on EnronOnline prices which they then reported to the publishers of the price indices as market prices. EnronOnline used the Southern California border as its exclusive hub for California gas trading. Because EnronOnline was a proprietary platform, Enron made all the rules and was a party to every deal traded on its boards. With Enron's market dominance in trading and superior information, the system was ripe for abuse. Internal Enron training exercises indicated that Enron knew of the potential to influence published price data in order to profit in its related derivative positions.¹⁷⁴ The empirical evidence from EnronOnline's databases suggested that EnronOnline was a significant part of the price formation process and that Enron took large positions in the markets using its own trading platform.

Within a month of the April hearings, Dynegy and AEP disclosed that some of their traders had provided inaccurate data for energy prices indices. In some cases, the volume of round-trip trading had accounted for astounding growth in revenues. During one hour on November 15, 2001, Dynegy and CMS simultaneously traded megawatts with each other to create a deal "worth" \$1.68 billion in revenues. Dynegy explained that it was "stress testing" its Dynegy Direct trading platform that had been "having problems with large transactions."¹⁷⁵ Analysts saw

172. *Id.* at 61–72. The different methodology would produce a tremendous difference in the imputed market clearing price for electricity for refund purposes. The market price would fall from \$497 per megawatt-hour (using published spot prices) to \$153 per megawatt-hour (using the new formula). *Id.* at 72.

173. *Id.* at 48–54.

174. *Id.* at 53.

175. Mitchell Benson et al., *Trade Disclosures Shake Faith in Damaged Electricity*

the trades as “competing for brag-a-watts”: attempting to build volume to show the public that their trading platforms had captured a large share of EnronOnline’s shrinking business.¹⁷⁶ In another case, a trader engaged in repeated back and forth trades with Enron simply to win a TV set, the award for highest trading volume that day.¹⁷⁷ More seriously, the practice seems to have been institutionalized in several companies. A gas trader described the standard practice thus: Company analysts circulated on the trading floor each month and calculated the price that would most benefit each trading desk at each market hub. The analyst would then create trades and work the prices to arrive at the weighted average that would most favor the company. These trades were then reported to the publications.¹⁷⁸

The disclosures of false data to index publishers vindicated the outspoken views of the head of a large, independent natural gas producing company, Raymond Plank of Apache, who had been saying for years that the indices were not accurate.¹⁷⁹ He and others have called for an index published by a government agency with standardized reporting rules and the power to impose penalties for false submissions.

Five companies, Dynegy, AEP, CMS, El Paso and Williams, admitted that some of their traders had done round-trip trades.¹⁸⁰ Many companies fired traders for passing false data, in an attempt to self-regulate and regain credibility.¹⁸¹ Criminal indictments and arrests of traders punctuated the headlines in

Market, WALL ST. J., May 13, 2002, at A1. Round-tripping or wash trading is not illegal on these unregulated, over-the-counter exchanges. On the stock exchange and futures exchanges like NYMEX, such conduct is illegal and regulators have prosecuted traders who inflated trading in a security to affect its price or to give the illusion that the security is trading in a liquid market. However, round-trip trading may ultimately violate securities regulations if the trades are materially misleading to the investing public.

176. *Id.*

177. Richard A. Opper, Jr., *Report Voices Suspicions on Energy Crisis*, N.Y. TIMES, Aug. 14, 2002, at C1.

178. Michael Davis, *Energy Traders Say Giving Out False Information Was Common*, HOUS. CHRON., Dec. 16, 2002, at 1A, 11A.

179. The former director of gas research at *Gas Daily* testified that the prevalence of false price information supplied to that publication was so blatant that she received permission to contract with PriceWaterhouseCoopers to conduct an audit. The audit never occurred because Platts, a competing publisher, purchased *Gas Daily*. Enron was Platts’ largest customer. Harvey Rice, *Gas Price Fudging Detailed*, HOUS. CHRON., Nov. 19, 2002, at 5B.

180. Dynegy was the first company to settle with the CFTC over the practice of submitting false data to publications, paying a \$5 million fine. Michael Davis, *\$5 Million Settlement for Dynegy*, HOUS. CHRON., Dec. 20, 2002, at C1.

181. *AEP Cracks Down on Traders in Bid for Credibility*, REUTERS, Oct. 9, 2002 (ECP online). Laura Goldberg, *Dynegy Dismisses 6 Workers*, HOUS. CHRON., Oct. 19, 2002, at 1C.

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December 2002 and early 2003.¹⁸² Some companies instructed employees to suspend reporting any information to publications, making price transparency in these markets even more problematic.¹⁸³ An editorial in the *Houston Chronicle*, the hometown newspaper of many of these traders, read:

Apparently, it has been common practice for energy trading firms to pass around phony energy price information to publications that track energy markets

A small number of key newsletters use [this] price information to determine prices on gas contracts that are worth billions of dollars. Utility companies can end up overcharging millions of customers . . . if traders are lying about trade prices [D]eregulation is not supposed to be a way for companies to use fraud to benefit their own bottom line at everyone else's expense.¹⁸⁴

The fear of serious harm to the natural gas industry, expressed by the Chair of FERC in the opening quotation to Section III(E) *supra* of this article,¹⁸⁵ appeared to be well-placed, as documented a few months later in the FERC staff's "Final Report on Price Manipulation in Western Markets," released on March 26, 2003. A Wall Street analyst called this release date "D-Day," meaning Dirt Day.¹⁸⁶ This report's findings are discussed next.

182. Todd Geiger, a former vice president at El Paso was indicted on December 4, 2002 for submitting 48 false gas trades to *Inside FERC* (which did not use the trades in its index because the prices were outliers, too far from normal). Laura Goldberg, *El Paso ex-VP Indicted*, HOUS. CHRON., Dec. 5, 2002, at 1A, 6A. Michelle Valencia, a former trader with Dynegy was indicted in January 2003. Laura Goldberg, *Former Dynegy Trader Charged in Pricing Case*, HOUS. CHRON., Jan. 27, 2003 (online). In February 2003, another Enron trader (the first was Timothy Belden) pleaded guilty to criminal charges of attempting to manipulate the California energy market. Rebecca Smith, *Former Enron Trader Pleads Guilty on Conspiracy Count*, WALL ST. J., Feb. 4, 2003 (online).

183. *Fear Clouds Pricing in U.S. Power, Gas Markets*, REUTERS, Nov. 21, 2002 (ECP online). Chip Cummins, *Natural-Gas Prices Thrown in Doubt*, WALL ST. J., Nov. 12, 2002, at C1, C12.

184. Editorial, *Phony Baloney*, HOUS. CHRON., Dec. 18, 2002, at 25A.

185. Baltimore, *supra* note 164 (quoting FERC Chair Pat Wood III).

186. Mark Golden, *Power Points: Second Thoughts on FERC's California D-Day*, WALL ST. J., Mar. 31, 2003 (online).

F. *FERC's Final Report on Price Manipulation in Western Markets, March 2003*

“[P]rice index manipulation was part of the price formation process.”

FERC Final Report, March 2003.¹⁸⁷

This long-awaited Final Report by FERC staff¹⁸⁸ on the manipulation of western gas and electricity markets tests both the ability and resolve of this agency to demonstrate that it can fairly and effectively police market participants and assure that gas and electric markets operate in the public interest. Its 350 pages of analysis, explanation, econometric studies, and data conclude that many participants in the California market did indeed exercise market power, illegally game the California system, and manipulate gas and electric price indices in very significant ways. Many companies are named as potential violators, as well as publicly owned municipal utilities both large (the Los Angeles Department of Water and Power) and small (e.g., the cities of Glendale and Azusa). The California ISO is briskly taken to task for knowingly allowing false information to be submitted by power buyers to counteract other false information submitted by sellers. Enron's business model is revealed as being more predatory than disclosed in other book-length publications to date. Truly, it is impossible to read the report without being both riveted and appalled by what transpired in California and by the sheer number of entities—not just Enron—identified as probable profiteers in this out-of-control market.

The core objectives of the Final Report were to analyze, first, whether spot power prices in the West were just and reasonable in 2000-2001, and, second, whether spot power prices adversely affected long-term power prices in the bilateral contracts that California signed in spring 2001 as the state attempted to escape the spot market gone awry.¹⁸⁹ The answers are “no—prices were not just and reasonable” and “yes—spot prices affected forward prices.” In the process of developing these answers, the Final Report makes many recommendations to the FERC

187. FERC FINAL REPORT 2003, *supra* note 117, at III-16.

188. This report will be referred to as the Final Report or the Report in the text, to distinguish it from FERC's initial report on market manipulation released in 2002. The full citations to both reports appear in note 117 *supra*.

189. *Id.* (noting that neither the Federal Power Act nor the Natural Gas Act requires that FERC prove intent before it determines that rates are unjust and unreasonable or that persons have violated tariffs or regulations).

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Commissioners, including the issuance of show cause orders to many market participants that appear to have violated FERC rules. In most instances, the Report recommends that FERC Commissioners order larger refunds to California buyers, as disgorged funds from the illegal profiteering of these participants. However, the Report is notably reticent about recommending refunds to California buyers related to the long-term contracts that the state signed in its attempt to disengage from the spot markets run haywire. The Final Report looks backwards at past events with sharply keener eyes than FERC once possessed, and it looks forward, searching for ways to rebuild trading markets that can be trusted.

The Final Report contains known truths and new surprises. It gives clear portrayals of which companies cooperated with FERC in its data gathering (e.g., TransAlta gets a special “gold star” and a cooperative Williams is exonerated from charges made by a former employee that it attempted to corner the market for natural gas sold to California),¹⁹⁰ and it names those companies whose employees continue to obfuscate (e.g., Sempra is characterized as outdoing Enron in this regard).¹⁹¹ The Report will clearly be used in litigation, in policy debates in many state, regional and federal forums, and, hopefully, as a training guide to future market monitors in regulatory agencies and to those private entities still involved in energy markets that wish to avoid a future show cause order under market rules that may create similar situations.

Despite its many charts and graphs of dry data and econometric studies, large sections of the Report read as a *Who's Who of Market Rogues* and a reverse-engineered guide on *How to Be a Millionaire by Manipulating the Physical and Financial Gas and Electric Power Markets*, on a par with Fagin's instructions to Oliver Twist on how to be a good pickpocket. The Final Report is superior to many books written on Enron's business model or on the California energy crisis—and the public can access it for free.

The Final Report begins with an overall conclusion:

While Staff found significant market manipulation, this evidence does not alter the Commission's original conclusion, set forth in its December 15, 2000 Order, that significant supply shortfalls and a fatally flawed market design were the root causes

190. FERC FINAL REPORT 2003, *supra* note 117, at VI-28, X-1 to X-4.

191. *Id.* at VI-28, VI-33. (“[I]f Enron were to use [Sempra's] interpretations [of FERC's information requests], Enron would not admit to using its own strategies.”)

of the California market meltdown. [These two factors] greatly facilitated the ability of certain market participants to engage in manipulation.¹⁹²

While this grand conclusion was not surprising, the Final Report attributes much of the “market meltdown manipulation” to the linkage between the natural gas and electric power markets, a linkage largely under-analyzed by most of the earlier commentators.¹⁹³ Dysfunctions in each market fed off each other. Spot gas prices rose to extraordinary levels and were passed through to electricity prices under FERC’s “soft price cap” rules.¹⁹⁴ Reporting of false price data, wash trading by many market participants, and the incredible “churning” of just one company, Reliant, at illiquid market centers caused price manipulation in both gas and electric markets

The Final Report’s major findings are summarized in the next sections of this article, in the same order as the four problem areas identified and discussed in Section III *supra* of this article.

1. Gaming a Flawed Deregulatory Plan

The Final Report concludes, in Chapter VI, that almost all of the colorfully named Enron trading schemes violated the FERC-approved rules of California’s Market Monitoring and Information Protocol (MMIP) which prohibited “gaming” and “anomalous market behavior.”¹⁹⁵ The schemes thereby violated FERC’s tariff provisions. The chapter builds on earlier FERC data requests to companies and on a California ISO report released in January 2003 that identified potential transactions and entities using what are formally called the “Enron strategies,” first divulged with the release of the Stoel Rives lawyers’ memos in May 2002. The FERC staff analyzed what the law firm memo writers failed to do after they quoted the anti-gaming and anti-anomalous market behavior rules of California’s protocol.¹⁹⁶ Load Shift, Ricochet, Fat Boy, Inc-ing, Death Star, Wheel Out, and Get Shorty violated FERC tariff rules. Only one

192. FERC FINAL REPORT 2003, *supra* note 117, at ES-1.

193. Appendix A contains a list of the other factors cited by the Final Report as contributing to the energy crisis.

194. The fact that FERC imposed this soft price cap, which basically allowed gas prices to be passed through automatically to electricity generators (without a prudence review common in state public utility commission regulation of electricity rates under cost-of-service ratemaking) is downplayed.

195. FERC FINAL REPORT 2003, *supra* note 117, at VI-6 to VI-10.

196. These anti-gaming provisions are quoted in text *supra* accompanying note 108.

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uncolorful strategy—exporting power out of California—was found not to violate the anti-gaming provisions. The FERC staff concluded that the California protocol’s broad anti-gaming prohibitions, while not expressly prohibiting any specific behavior, gave market participants ample notice of the illegality of misconduct which adversely affected the efficient operation of the California ISO and Power Exchange markets.¹⁹⁷

Many new names are listed in the line-up of profiteering market rogues in Chapter VI, including Coral Power, Sempra, the Modesto Irrigation District, and the city of Redding (which played a new game, “red congo,” with Enron).¹⁹⁸ The FERC staff recommended that show cause proceedings be initiated against all the entities listed, including the publicly owned participants. The chapter concludes that numerous parties—one list alone names 37 entities—appear to have engaged in these “Enron strategies,” with the cumulative effect that consumers did not pay just and reasonable rates for wholesale electricity.

The chapter then describes another facet of Enron’s business model.¹⁹⁹ Enron formed many strategic business alliances with small municipal utilities and QFs (the qualifying facilities promoted by PURPA in geothermal, wind, and cogeneration). Enron began the alliance with a consulting agreement that outsourced the performance of certain services to Enron. The complexity of deregulated markets led these small entities to contract with Enron to perform energy services. Gradually Enron came to effectively control the decision-making power over the assets of these smaller parties, bluntly called “Gaining Control of Assets” in Enron business strategy presentations.²⁰⁰ Enron did not file with FERC any indications that it controlled a significant amount of generation by using these entities as “sleeves” over Enron’s heavily muscled arm. In this way, FERC could not accurately determine the relative market share of an applicant requesting a market-based rate.

The last part of this chapter of the Final Report addresses economic withholding of generation and inflated bidding. The California protocol defined anomalous market prices as including “pricing and bidding patterns that are inconsistent with prevailing supply and demand conditions.”²⁰¹ Under this

197. FERC FINAL REPORT 2003, *supra* note 117, at VI-7.

198. *Id.* at VI-30 to VI-32. About 65 entities, both public and private, are implicated in the Final Report.

199. *Id.* at VI-37.

200. *Id.* at VI-40.

201. *Id.* at VI-45.

definition, the FERC staff found that market participants violated the protocol by bidding prices far in excess of the costs of generating power. For example, in May 2000 when the disparity between the input costs of generating power and the spot market-clearing price of electricity first appeared, electric prices rose above \$500 per megawatt-hour, even though natural gas prices would have supported electric prices of only about \$75 per megawatt-hour. Because the capital recovery requirements for a hypothetical new power plant entrant were found to be no more than about \$20 per megawatt-hour, the total fixed and operating costs of generation would not be expected to exceed about \$100 per megawatt-hour. Therefore, the huge rise in bid prices was not based on a rise in input costs over the relevant period, but appeared to be “solely an attempt to raise prices.”²⁰²

As the energy crisis roiled in California, FERC eventually issued an April 2001 order that prohibited bids which varied with a generating unit’s output in a way that did not reflect the known performance characteristics of that unit.²⁰³ The Final Report concludes that this order prohibited “hockey stick” bidding in which the last megawatts bid from a unit are bid at an excessively high price relative to the bids on the other output from that same unit. In general, any bid that varied over time in a manner that was unrelated to a change in the unit’s performance or to a change in the supply environment was illegal, and market participants should be penalized for this behavior.

This part of the Final Report is likely to be quite controversial. The generators’ response to FERC’s analysis is also addressed briefly in the Final Report. The generators protested that no protocol required that they bid at only their marginal cost of production (reflecting actual supply cost conditions of their own generating units, as FERC interpreted the rules). The generators argued that FERC’s interpretation of the protocol’s rules did not recognize market uncertainty, scarcity rents, and opportunity costs that are the foundation of micro-economic pricing in competitive markets with supply shortages.²⁰⁴ The FERC staff found these arguments unpersuasive and an inadequate explanation of the dramatic price spikes that had started in May 2000. The staff acknowledged that legitimate

202. *Id.* at VI-45 to 46. Later in the summer, bids were close to the subsequently imposed \$250 per megawatt-hour price cap, even though input prices had risen during the interim. FERC staff used this as additional evidence that prices and bids of \$500 per megawatt-hour early in the summer were not related to actual costs.

203. *Id.* at VI-47.

204. *Id.* at VI-52.

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scarcity costs should have increased from May to September 2000 as electricity demand increased due to hotter weather. However, the bidding patterns of the generators did not reflect this changing scarcity: generators were willing to bid under the \$250 price cap in the late summer (when scarcity was high), yet they had made much higher bids in May when scarcity was low. Thus, the FERC staff reiterated its conclusions that the bids violated the express provisions of the FERC-approved California protocol on “anomalous behavior.”

The FERC staff then recommended that orders be issued to the generators with these anomalous bidding patterns to show cause why they did not violate the rules, subjecting them to disgorgement of unjust profits and other appropriate remedies.²⁰⁵ The staff also recommended that the market-based rate authority for two companies, Reliant and BP Energy, be revoked because phone transcripts showed a deliberate and coordinated attempt to raise prices to move the market price to increase the value of BP’s trading position for mark-to-market accounting purposes.²⁰⁶

The response of some of the companies named in the Final Report was immediate and loud: First, the California protocol rules were too vague to provide adequate notice of illegal behavior;²⁰⁷ second, the Report largely rehashed a report by the California ISO, without acknowledging that some of the “profiteering” dollars at issue were for very small amounts of money;²⁰⁸ and third, some of the remedies, like revoking certain companies’ power to trade at market-based rates, were too harsh (especially in light of the millions of dollars spent by some of the more cooperative companies on internal reviews of their own

205. Staff also recommended that the FERC administrative law judge presiding over the Northwest Refund Docket be ordered to consider the findings of the Final Report because the unjust and unreasonable prices in California spread to the northwest states. This judge had earlier ruled that the record did not support allegations of market manipulation. *Id.* at VI-56 to 57.

206. *Id.* at VI-55 to 56.

207. Mark Golden, *California Power Sellers Say FERC Charges Rest on Vague Rules*, WALL ST. J., Apr. 14, 2003 (online). Duke Energy alleges that the market monitors themselves did not know the purpose, meaning or scope of the protocol’s provisions. *Duke: CA Monitoring Rules Lack “Clarity” to Justify FERC Retroactive Sanctions*, NGPS POWER MARKET TODAY, Apr. 7, 2003 (ECP online). Sempra had earlier charged that the California complainants had the “bad habit of blaming the supposed deficiencies of the markets they designed on everyone but themselves.” *Power Sellers Bite Back at California*, HOUS. CHRON., Mar. 21, 2003, at 2C.

208. *E.g.*, Constellation Energy Groups had ill-gotten gains of \$465 according to the California ISO report. Mark Golden, *Power Points: Second Thoughts on FERC’s California D-Day*, WALL ST. J., Mar. 31, 2003.

records) and would destroy investment in the trading sector.²⁰⁹

The world of energy trading and merchant power generation was now locked in litigation far beyond the original bars put in place on a handful of companies in the immediate aftermath of the release of the May 2002 Enron gaming memos. After D-Day, it appeared that few participants in this industry would escape untouched by Enronitis.

2. Physically Withholding Generating Power

The allegation that generators physically withheld power is probably the most damaging of all the charges against these market participants. The allegation is easy for the public to understand (compared to phantom congestion, load shifts and other strategies used mainly to raise prices) and easy for the public to link to the dangers to public health and safety caused by blackouts.

Here, the FERC Final Report is only a few paragraphs long.²¹⁰ It notes that Reliant employees had performed discretionary maintenance on generating units rather than offer supplies to the California Power Exchange for two days in June 2000, and that FERC had approved a consent agreement with Reliant in January 2003, resolving the matter in return for a \$13.8 million fee.²¹¹ Then the Report simply states that other entities have submitted evidence of other alleged incidents of physical withholding, but that this Report will not deal with them. A separate investigation was ongoing.

The issue of physical withholding seems to be a particularly difficult one to resolve. As explained in a General Accounting Office report,²¹² it is hard to tell when a unit is down for good faith repairs versus feigned maintenance. Strangely, however, the Final Report does not even mention a second report which FERC released on the same day in March 2003. This second staff report analyzed a study by the California PUC (CPUC) dated September 17, 2002, which had concluded that five merchant

209. *Reliant: FERC Penalty Plan Too Harsh, Would Hurt Power Market*, WALL ST. J., Apr. 17, 2003 (online); Laura Goldberg, *Energy Firms Say Penalties Too High*, HOUS. CHRON., April 18, 2003 (online) (reporting that Reliant had spent \$10 million on internal reviews of gaming behavior).

210. FERC FINAL REPORT 2003, *supra* note 117, at VI-54 to VI-55.

211. Stipulation and Consent Agreement dated Jan. 31, 2003, FERC Docket No. PA02-2-001. The \$13.8 million represented the worst-case scenario of the maximum effect of Reliant's withholding on the California market.

212. See U.S. GENERAL ACCOUNTING OFFICE, ENERGY MARKETS: RESULTS OF STUDIES ASSESSING HIGH ELECTRICITY PRICES IN CALIFORNIA (GAO-01-857, June 2001) discussed in text *infra* accompanying notes 279 to 281.

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generators (the quintet of Duke, Dynegy, Mirant, Reliant and Williams) had withheld significant amounts of power on the 38 days that Californians experienced interrupted electricity service during the crisis.²¹³ The CPUC report charged that most blackouts in the state could have been avoided had these generators not curtailed their power plants' output.

This second FERC report concluded that the CPUC study was inaccurate. After reviewing reams of data, FERC staff could account for almost all the power that the CPUC report had identified as withheld power.²¹⁴ There was no evidence that any of the five companies had withheld any material amounts of power during these times of supply curtailment. The FERC staff could not account for only 13 percent of the power that the CPUC report had identified as withheld power, and this small percentage could not have caused the blackouts. The bulk of the missing power—87 percent—could be explained by factors such as: plants experiencing outages; CAISO dispatch rules which decreased power to control the grid; unit start-up delays; location of plants to the south of a congested transmission path that prevented transmission of supplies; and other constraints.²¹⁵ However, the FERC report itself cautioned that its conclusions were very narrow. FERC staff only looked at the six days when firm service customers experienced actual blackouts.²¹⁶ Further, FERC assumed (as had the CPUC in its report) that all reported plant outages were legitimate, and the FERC staff did not examine the issue of exercising market power through economic withholding or bidding practices to raise prices.²¹⁷ Thus, the second FERC report did not examine whether any physical withholding had occurred on days other than these six blackout days by generators that sought mainly to raise prices.

The second FERC report notes that the analysis that the CPUC attempted to do is "extremely difficult and complex given the variables and the record-keeping systems in place" at the California ISO during this time.²¹⁸ FERC staff conducted a much

213. STAFF OF FEDERAL ENERGY REGULATORY COMM'N, STAFF REVIEW OF CALIF. PUBLIC UTILITY COMMISSION'S SEPTEMBER 17, 2002 INVESTIGATIVE REPORT ON WHOLESALE ELECTRIC GENERATION (Mar. 26, 2003). FERC's analysis had been requested by California Senator Feinstein.

214. *Id.* at 4–5.

215. *Id.* at 4–5.

216. Firm customers have contracted with electricity providers for non-interruptible supplies. Some customers, particularly industrial users with alternative sources of power, contracted for lower-priced, interruptible power supplies. The FERC staff did not analyze the blackout days that cut off the interruptible customers.

217. *Id.* at 3.

218. *Id.* at 7–8.

more intensive analysis of the ISO's voluminous log entries and also reviewed data and responses by the five generators and by the California ISO to the CPUC report. FERC staff found many errors in the log and outage database used by the CPUC and the California ISO. These accounting errors alone explained 31 percent of the CPUC's allegedly withheld power.²¹⁹

Perhaps similar difficulties of data collection and analysis are slowing the thorough investigation of physical withholding on a broader scale in the California markets. The number of person-hours required to do this type of detailed analysis by FERC staff and by the market players is very large. With data errors of the magnitude found by FERC, one must hope that better systems and training are now in place in California and other states and regions so that market conditions and gaming can be quickly and accurately monitored. Meanwhile, readers of this article—and the public in general—must await further answers to the physical withholding issue.

3. Affiliate Abuse in the Gas Pipeline Sector

Shortly before the Final Report was published, El Paso agreed to a \$1.7 billion settlement of charges that its pipeline affiliate had withheld natural gas supplies to California so that its marketing affiliate could profit from selling scarce gas into this market during the California crisis.²²⁰ Thus, the Final Report does not discuss this issue.

4. Manipulating Gas and Electric Price Indices

About half of FERC's Final Report analyzes the pervasive dysfunctions in gas price reporting that then fed into the spot prices for electricity. As discussed previously, FERC's initial investigations of price manipulation in the western markets uncovered a larger problem permeating the gas and electric markets nationwide: Traders lied about the prices they reported to the trade publications that aggregated the price information used in thousands and thousands of contracts for gas and electricity.²²¹

The first chapter of the Final Report reviews the many factors that affected the gas and electric markets in 2000-2001 and concludes that spot gas prices in California reflected extraordinary differentials which far exceeded the price of gas

219. *Id.* at 22–23.

220. *See text supra* accompanying notes 156 to 158.

221. *See text supra* accompanying notes 163 to 186.

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produced in states like Texas plus the largely regulated cost of transporting that gas from the producing states to California. Yet, spot gas prices were used to compute clearing prices paid by most California wholesale buyers for spot electricity bought and sold during the crisis. The next three chapters of the Report document in great detail the behavior that led to these extraordinary spot gas prices.

Chapter II is largely devoted to the “churning” trades of a single Reliant trader²²² at Topock, a major delivery point where El Paso’s interstate gas pipeline meets Southern California Gas Company’s intrastate pipeline and where EnronOnline traded gas. Churning is defined as the rapid, high-volume buying and selling of physical gas in quick bursts designed to significantly increase its price. Reliant profited from its churning by selling gas at or near the top of the price climb that it created. Reliant was such a large presence at Topock that its churning inflated the market price for natural gas throughout California.²²³

FERC’s careful econometric studies estimated that the price of gas would have been almost \$8.54 per million BTUs lower in the one month of December 2000 alone if Reliant had not churned, meaning that California consumers paid excessive gas costs of about \$650 million just in this one month.²²⁴ For the longer period from October 2, 2000 to June 20, 2001 (the dates of the California Refund Proceeding), the price of gas would have averaged about \$1.91 per million BTUs less if Reliant had not churned, resulting in lower gas costs totaling about \$1.15 billion over this time period.²²⁵ (For comparison, the spot price of gas averaged about \$3.00 per million BTUs in Southern California for most of 1999).²²⁶ Incredibly, Reliant’s churning did not violate FERC’s blanket certificate under which it sold gas because FERC’s regulations contained no guidelines or prohibitions on trading gas.²²⁷ Therefore, no illegal profits could be ordered to be disgorged.

Because Reliant’s churned trades took place on

222. The Final Report does not give the trader’s name, but other sources name the trader. FERC regulators nicknamed her “the bunny slipper lady” because she made her trades from her beachfront house in Long Beach in the early morning hours. Monica Perin, *FERC Singles Out a Reliant Trader for Role in California Power Crisis*, HOUS. BUS. J., Apr. 25, 2003, at 6.

223. FERC FINAL REPORT 2003, *supra* note 117, at ES-1 to ES-2.

224. *Id.* at II-59. The \$650 million estimate assumed that Reliant’s trading affected all gas volumes delivered into the Southern California pipeline at the border.

225. *Id.* at II-49 to II-50 and II-59.

226. *Id.* at I-5.

227. *Id.* at II-61.

EnronOnline's real-time screen, all gas traders everywhere could see these sudden surges in buying and selling large volumes. Only Enron and Reliant would know why the EnronOnline price was moving up; other traders would simply observe the run-up. The EnronOnline spot gas prices were fed into the published trade indices for spot gas. Indeed, the correlation between the EnronOnline price and the *Gas Daily* index price is virtually perfect.²²⁸

Reliant profited handsomely in the churning. By modeling the combined effects of Reliant's contract terms to supply gas to the Los Angeles Department of Water and Power, the applicable intrastate gas balancing rules and penalties, and netting arrangements due to El Paso Pipeline's "cuts" in capacity, the Final Report showed that Reliant had an incentive to churn: mathematically, whenever Reliant was a net buyer of physical gas, this complex of arrangements made churning very profitable.²²⁹ In addition, Reliant's financial derivatives trader made millions of dollars on the price churning in the physical gas market.²³⁰ Enron also earned lucrative returns from the huge information advantage that EnronOnline gave it over competitors. Because only Enron traders knew both sides of the market trades, they could leverage their information advantage about the physical gas market into large speculative positions in the financial markets, earning more than \$500 million in 2000 and 2001.²³¹

Assuming that Reliant's churning affected the price of all gas delivered at the Southern California border, the excessive gas costs of \$1.15 billion for the nine-month refund period inflated electricity spot market-clearing prices by \$1.6 billion for this period.²³²

Chapter III of the Final Report then looks at the evidence supporting charges that companies manipulated the gas price indices to benefit their own positions in the power markets. Five companies had admitted providing false price data to the trade press, and the Report documents their reporting practices based on FERC interviews with some of the traders. The reporting was done by the gas traders themselves, sometimes with little or no management oversight, and sometimes with the active

228. *See id.* at II-6.

229. *Id.* at II-32 to II-43.

230. *Id.* at II-9, 50-57.

231. *See* FERC FINAL REPORT 2003, *supra* note 117, at VIII-1 to VIII-6.

232. *Id.* at II-59 to II-60.

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encouragement of the trading desk heads and management.²³³ Several reasons were given for the false reporting: It was done to offset the perceived dominance of Enron in the process; to benefit the traders' own positions; or to offset inaccuracies that other companies were reporting. It seems that everyone knew, even inside the trade publications, that everyone else was misreporting. Yet, the published index prices purported to represent the actual price at which trades took place. In some instances, trading was so thin at certain geographic locations, that one trader's reports could change the index by as much as ten cents per million BTUs.²³⁴

The false data reporting was not limited to California markets. El Paso Merchant's trades in the Northeast, mid-Continent, and Gulf Coast failed to match actual trades 99 percent of the time.²³⁵ The evidence showed that El Paso systematically reported data according to its "book bias", i.e., its trading book position. Some companies attempted to justify their misreporting by contending that their traders thought they were providing the trade press what it wanted: a "sense of the market" rather than their own companies' actual trades.²³⁶ Some traders reported EnronOnline prices as their own, again indicating Enron's influence on the published indices. One trader, in terms familiar to game theorists, described his position as a Prisoners' Dilemma: because other traders were reporting false information, his best response was to do likewise, even though everyone would be better off with accurate price indices.²³⁷

In later chapters, the Final Report looked more closely at the influence of EnronOnline in facilitating price manipulation. In a stunning disclosure, the Report found that Enron traders used EnronOnline to manipulate the Henry Hub market price in order to make huge profits in financial derivatives by selling short when the price was rising, knowing that the price would soon fall.²³⁸ Few participants in the industry would have believed that a single trader could influence such a huge, liquid market, the largest trading hub for natural gas in the United States.

In sum, the Final Report concludes that "price index

233. *Id.* at III-4.

234. *Id.* at III-10.

235. *Id.* at III-13. As the Report archly comments: "El Paso misreported 99 percent of the prices on trades worth over \$2 billion. . . [T]he published indices are the basis for billions of dollars of financial derivative contracts as well as physical and financial electricity contracts." *Id.*

236. See FERC FINAL REPORT 2003, *supra* note 117, at III-21 to III-22.

237. *Id.* at III-28.

238. *Id.* at III-36 and IX-12 to IX-24.

manipulation was part of the price formation process,"²³⁹ and then ruefully comments:

The Commission's vision is to ensure dependable, affordable energy through sustained competitive markets. The basis for using markets to set energy prices rather than cost-of-service regulation is the belief that competitive markets can more efficiently allocate scarce resources. In a properly functioning competitive market, the market price serves to allocate resources. The price represents the value of the resource to society, reflecting demand and supply conditions. The price sends a signal to potential suppliers considering expanding production or entering the market; to the financial industry considering whether to finance such expansion . . .; to consumers making short-term decisions such as whether to buy an energy-efficient furnace . . .; and to energy-intensive businesses regarding where to locate and which energy source to use. The price also signals where infrastructure improvements are most critical. A manipulated price sends a false price signal and misallocates resources.²⁴⁰

Because of the overwhelming evidence that spot gas prices were artificially high, the Final Report concludes that these inflated prices should not be used in the California Refund Proceeding to compute the just and reasonable clearing prices for the spot electricity market. Instead, FERC should use a mitigated price based on the producing-area gas price plus transportation to California as a proxy for competitively derived gas prices. This would reduce gas costs used in the refund formula by \$7.03 per million BTUs in southern California and \$4.18 per million BTUs in northern California, increasing the

239. *Id.* at III-16.

240. *Id.* at III-18; see also FERC STAFF REPORT OF THE OFFICE OF MARKET OVERSIGHT AND INVESTIGATIONS, 2003 NATURAL GAS MARKET ASSESSMENT 3 (listing the five most pressing concerns for natural gas markets as: (1) the deteriorating financial condition of natural gas companies that had heavily engaged in trading; (2) managing credit risks using sophisticated new tools in effective ways; (3) shaken confidence in price discovery methods; (4) need for investment in natural gas infrastructure; and (5) continuing potential for manipulation of the energy markets). The report gamefully concludes that the issues are manageable. *Id.*

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level of refunds paid to California.²⁴¹ The staff acknowledged that some of the higher California price also reflected real pipeline capacity shortages, including El Paso pipeline's fateful rupture. Ideally, that part of the higher border price reflecting true scarcity should be included in the market-clearing price. However, the staff concluded that it could not separate the legitimate effects of scarcity from the dysfunctions and price manipulation.²⁴²

Chapter V of the Final Report then links the dysfunctions in the spot gas and electric markets to the forward price for electricity sold under long-term contracts. The issue is an important one because several parties have filed complaints with FERC alleging that the long-term contracts that they signed should be modified because the prices in them are not just and reasonable. With the help of a highly respected academic economist, Robert Pindyck,²⁴³ the FERC staff gathered the most complete database possible and did a statistical analysis of whether the inflated prices in the spot market tainted the forward contracting market for electricity. The study found that a statistically significant relationship existed. Because electricity cannot be stored, one would expect to see little or no relationship between the spot price today and the forward price for electricity sold, say, two years from now.²⁴⁴

The FERC study showed that spot power prices did affect forward prices, especially in contracts of one-to-two years' duration. As the contract period lengthened, the influence decreased, so that hardly any effect was noticeable in contracts of five-to-eight years' duration. To illustrate the Final Report's

241. FERC FINAL REPORT 2003, *supra* note 117, at IV-1.

242. *Id.* at IV-2. This staff conclusion is also controversial. Its own brief analysis showed that the El Paso explosion had a large impact on price. The FERC staff rather lamely concluded that there is "no compelling reason to include costs related to such an abnormal event in the clearing prices for an entire electric spot market." *Id.* at IV-6 to IV-7. However, in the new world of just-in-time gas deliveries, created by deregulation, markets should be expected and allowed to react to such events.

243. Professor Pindyck is a professor of Economics and Finance at M.I.T. Two competing consulting experts—Robert McCullough (again) and William Hogan of the Harvard Electricity Project—submitted econometric analyses to FERC for consideration. Mr. McCullough represented buyers in the Northwest who had signed long-term contracts; his study found a large, significant correlation between short- and long-term prices. Dr. Hogan, representing Morgan Stanley Capital, Mirant, AEP and Reliant, sellers under these contracts, found no significant correlation. Perhaps this shows the benefits of independent, academic research. *Id.* at V-2.

244. Future needs can usually be met by purchasing a commodity now and storing it. The forward price should reflect the cost of purchase plus the carrying cost of stockpiling, adjusted for risk. However, if a commodity cannot be stored, there is no link between the present and the future except to the extent that a buyers' and sellers' expectations about the future price are influenced by the present price.

findings, actual contracts of one-to- two years' duration had average prices of \$153.75 per megawatt-hour. An undistorted, competitive price would be expected to average about \$100 per megawatt-hour, or one-third less. For contracts of three-to-four years' duration, the difference was between \$84 per megawatt-hour (the actual contract price) and \$73 per megawatt-hour (the expected competitive price). For contracts lasting more than five years, the differences were much smaller (ranging from zero to a few dollars).

The chapter concludes: "Because spot gas prices influence spot power prices, the manipulation of spot gas prices could have led to power prices that were distorted above and beyond the levels established in the refund hearing."²⁴⁵ The staff recommended that FERC send its analysis to the Administrative Law Judge hearing the complaints seeking contract modification.

The remaining chapters of the Final Report examine in some detail how EnronOnline promoted wash trading by market participants, often by posting its own willingness to buy and sell at the same price. The wash trades created a false sense of liquidity in the markets, potentially distorting prices. Enron also manipulated prices on EnronOnline by having affiliates on both sides of trades, creating artificial price volatility and increased prices.²⁴⁶ Enron's trading practices were very lucrative and allowed it to manipulate thin physical markets to profit in the financial markets.²⁴⁷ In one instance, Enron moved the price of gas in the physical markets by only ten cents per million BTUs, but this earned it a \$3 million profit in the financial markets.²⁴⁸

Shortly after the Final Report was released in March 2003, Commissioners Pat Wood III and Nora Brownell indicated that they were unlikely to modify any long-term contracts, saying that this would impose more harm on the markets than leaving them

245. FERC FINAL REPORT 2003, *supra* note 117, at V-18. The remarks of these two commissioners were made at a password-protected phone conference between the commissioners and Wall Street analysts. Snohomish County, one of the complainants seeking contract modification, alleged that the FERC officials violated FERC procedural rules by prejudging a case in a proceeding that was still pending rather than deciding the case on its merits based on all the record evidence. The Inspector General of the Department of Energy began investigating whether the FERC Commissioners violated such rules. *DOE Looking into FERC Commissioners' Call With Analysts*, WALL ST. J., Apr. 29, 2003 (online).

246. *See generally* FERC FINAL REPORT 2003, *supra* note 117, Chapters VIII and IX.

247. *Id.* at VIII-1 to VIII-8. The profitability of Enron's trading activities is also described in PARTNOY, *supra* note 53, at 323-30. Partnoy estimates that Enron's trading profits were \$3.8 billion in 2001. *Id.* at 323.

248. FERC FINAL REPORT 2003, *supra* note 117, at IX-9 to IX-11.

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intact.²⁴⁹ Their statements caused a firestorm of protest from California officials who have pressed for \$9 billion in additional refunds due to market manipulation. The bulk of this number appears to be in long-term contract price modifications. As one California consumer group spokeswoman declared: “[F]or FERC to say ‘Oh, they robbed you,’ affirms what we already know. The question is what FERC is going to do about it, and the answer so far is not much.”²⁵⁰ FERC Commissioner Massey, the lone Democrat, indicated that he would modify the contracts.

If FERC does not modify the shorter of these long-term electricity contracts, the buyers will certainly appeal to the courts. It is difficult to see how FERC can sustain an argument that the long-term contract prices are just and reasonable, when the findings in this Final Report are contrary to such a conclusion. The FERC Commissioners have unanimously found that prices in the spot market for electricity in California were not just and reasonable, and the Final Report concludes that these spot prices significantly affected the long-term contract prices. In this regard, the standard to be used in determining the contract modification issue may make all the difference. If reviewed under the standard of whether it is in the public interest to modify the prices, the Wood/Brownell position may prevail: the sanctity of contract is necessary to provide stability in the energy markets (and perhaps, more cynically, to attract capital investment back into the industry). If reviewed under the standard of whether the prices are just and reasonable, the Massey position is likely to prevail. The difference in standards is discussed *infra* in Section V(B)(4) of this article.

Whatever FERC decides, large numbers of people will be unhappy and feel unfairly treated. The public may rightfully ask what “public interest” is served by preserving contracts that reflect the extensive manipulation of market forces by participants acting deceitfully and in violation of market rules. The industry’s abysmal conduct in the energy markets has put FERC in a no-win position on this issue.

IV. WHERE WAS FERC DURING THE CRISIS?

“The state and government people were just too stupid to see it.”

249. Stephanie M. Ingersoll et al., *FERC Ups California Refunds by \$1.5 Billion; Officials Disappointed with Likely Increase*, DAILY REP. FOR EXECUTIVES, Mar. 27, 2003, at A-40 to A-41.

250. *Id.* at A-41.

Former Enron trader.²⁵¹

“[FERC is] supposed to be a cop on the beat here and they were off getting doughnuts.”

Governor Gray Davis, June 2002.²⁵²

“Unfortunately, it isn’t enough to simply set up the market rules; to fulfill its mission, FERC must understand what is actually happening in the market.”

Senate Governmental Affairs Committee, November, 2002.²⁵³

FERC approved California’s retail electricity restructuring plan in late 1996, reflecting Justice Jackson’s philosophy of allowing states to act as laboratories for policy experiments.²⁵⁴ Why did FERC stamp its approval on a system which later, in hindsight, seemed so obviously flawed? In its first order directing remedies (albeit weak ones) for California’s wholesale electricity markets in late 2000, FERC wrote that “at the urging of California State regulators [FERC] deferred to the State on all significant aspects of State restructuring, including those aspects which directly implicated this Commission’s exclusive jurisdiction.”²⁵⁵ This deferral to state sovereignty can also be read as “passing the buck” for blame for California’s woes.

Whatever the degree of enthusiasm FERC initially felt for California’s radical embrace of deregulated energy markets, during the first six months of the state’s energy chaos in 2000, FERC did little to respond to California’s complaints that its restructured wholesale market, now operating through the Power Exchange and under the exclusive jurisdiction of FERC, was being manipulated. Nor did anyone else in the federal government act responsively. The federal attitude toward California is aptly depicted by the following cartoon.²⁵⁶

251. Chris Taylor, *California Scheming*, TIME, May 20, 2002, at 43.

252. Neela Banerjee, *New Questions on Handling of Power Prices in California*, N.Y. TIMES, June 8, 2002, at B1.

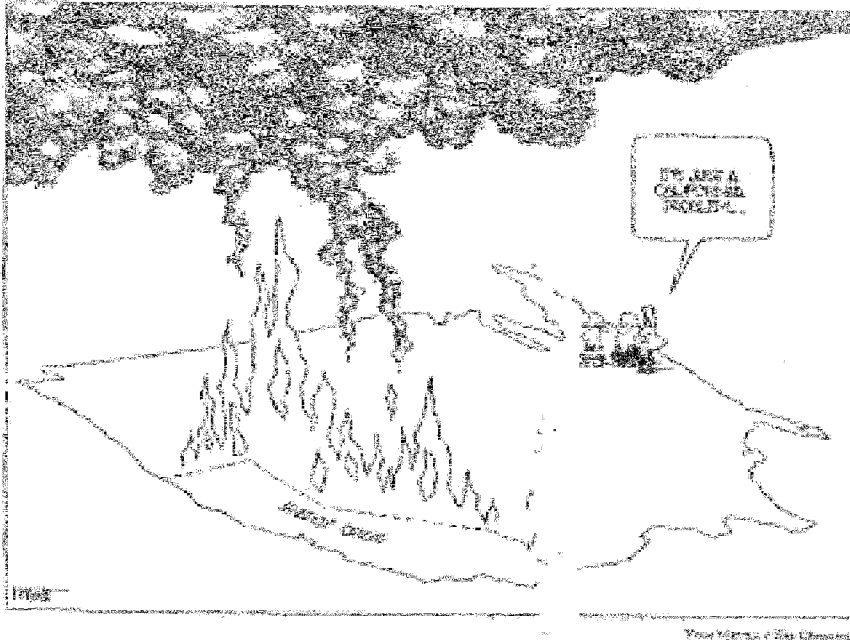
253. John J. Fialka, *Jurisdiction Issues Put Off Regulatory Action on Enron*, WALL ST. J., Nov. 12, 2002, at A2 (quoting the Senate Governmental Affairs Committee Report).

254. See *Connecticut Light & Power Co. v. Fed. Power Comm’n*, 324 U.S. 515, 530 (1945).

255. *San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Services*, 93 FERC ¶ 61,294, at 3 (Dec. 15, 2000), Docket No. EL00-95-000, Order Directing Remedies for California Wholesale Electric Markets.

256. Tom Meyer, S.F. CHRON., June 19, 2001 (reprinted with permission).

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Several commentators have traced in some detail the actions that FERC and the state of California took during the long year of turmoil in California markets.²⁵⁷ In addition, several investigatory reports have examined FERC's responses to California's calls for FERC action.²⁵⁸ Three conclusions generally emerge. First, in the beginning, the federal government did not much care that California was experiencing an energy crisis. The crisis was largely attributed to the state's own stubbornness in refusing to free retail electricity rates to move upwards with the soaring wholesale rates so that consumers would conserve energy, and to its foolhardy, pro-environmentalist refusal to build more power plants to serve its growing demand. Second, when FERC finally decided to respond, it found that it lacked the expertise and the resources to understand and monitor the swift-

257. Michael A. Yuffee, *California's Electricity Crisis: How Best to Respond to the Perfect Storm*, 22 ENERGY L. J. 65 (2001); Duane, *supra* note 66, at 471; see also JAMES L. SWEENEY, *THE CALIFORNIA ELECTRICITY CRISIS* (2002).

258. CALIFORNIA STATE AUDITOR, BUREAU OF STATE AUDITS, *ENERGY DEREGULATION: THE BENEFITS OF COMPETITION WERE UNDERMINED BY STRUCTURAL FLAWS IN THE MARKET, UNSUCCESSFUL OVERSIGHT, AND UNCONTROLLABLE COMPETITIVE FORCES* (Mar. 2001); U.S. GENERAL ACCOUNTING OFFICE, *ENERGY MARKETS: CONCERTED ACTIONS NEEDED BY FERC TO CONFRONT CHALLENGES THAT IMPEDE EFFECTIVE OVERSIGHT* (GAO-02-656, June 2002) [hereinafter cited as GAO, *CONCERTED ACTIONS NEEDED*]; SENATE COMM. ON GOVERNMENTAL AFFAIRS, *STAFF INVESTIGATION OF FERC'S OVERSIGHT OF ENRON CORP.* (Nov. 12, 2002).

moving, real-time markets in electricity.²⁵⁹ Third, even after FERC became a more forceful regulator, it has found it to be extraordinarily difficult to monitor and police electricity markets which operate at lightning speed, in real time, in markets which are not structurally competitive, and with aggressive traders and generators primed to find and use loopholes in the protocols to increase their companies' profits and their personal bonuses.

A few examples illustrate the general conclusions. EnronOnline had rapidly become the dominant source of energy price information through its proprietary trading platform, yet, FERC knew little about its operations. FERC did not even decide that it had jurisdiction to regulate trading platforms like EnronOnline until July 2002, two years after the California energy crisis began.²⁶⁰ FERC did not communicate with other agencies that regulated the quick-moving power market, such as the CFTC or the SEC, to try and understand power markets and the linkages between the physical and financial markets in energy and energy derivatives.²⁶¹ Meanwhile, Enron exploited the regulatory gaps among FERC, the CFTC and the SEC, and exploited FERC's lethargy by intervening in dozens of proceedings on the side of little or no regulation of the activity involved. Enron launched a huge public relations and lobbying campaign to keep FERC and other regulators from blaming it or deregulation in general for California's blackouts.²⁶²

The campaign was remarkably successful. Only in late August 2000, three months after the crisis began, did FERC act at all—and then at the request of one of the utilities, not the state. FERC opened an investigation, and FERC staff reported back with a hasty “big picture” view that formed the basis for FERC's first major order, proposed on November 1, 2000 and issued in final form on December 15, 2000, almost seven months after the crisis began.²⁶³ In this order, FERC acknowledged that it had a duty to assure that wholesale prices were just and reasonable and then stated that the current California rates—which were the unregulated, market-based rates granted to the

259. The FERC Commissioners have themselves recognized that the agency was often asleep at the switch while energy markets roiled. GAO, CONCERTED ACTIONS NEEDED, *supra* note 258 at 84–86.

260. SENATE COMM. ON GOVERNMENTAL AFFAIRS, STAFF INVESTIGATION OF FERC'S OVERSIGHT OF ENRON CORP. 19–26 (Nov. 12, 2002).

261. *Id.*

262. *Id.* at 41–46.

263. San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Services, 93 FERC ¶ 61,121 (Nov. 1, 2000), Docket No. EL00-95-000, Order Proposing Remedies for California Wholesale Electric Markets.

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now-independent generators—were not just and reasonable. Two major factors were causing the unjust and unreasonable rates: structural flaws in California’s market design and a supply/demand imbalance in power markets. The FERC staff report found no evidence of any specific market participant exercising market power or “gaming” the market. The staff report did conclude that the data indicated “some actual market power effects, to the extent that prices, at least in June, were significantly above competitive levels. However, the data do not isolate the specific exercise of market power or suggest that the exercise of market power was more important than other primary explanatory factors.”²⁶⁴ The November/December orders did not offer price relief to California in the form that it sought: maximum ceiling prices on wholesale electric prices (popularly called price caps). However, the order did set up some “price mitigation” measures along with operational changes in the market design.²⁶⁵

The order’s soft price mitigation measures elicited a sharp exchange among the Commissioners. For months, FERC Commissioners had berated California for refusing to raise retail electric prices in response to rising wholesale prices as a solution to its supply/demand imbalance. Their credo was simple: Price caps would make things worse by decreasing incentives for suppliers to serve the market. In light of this well-accepted economic principle, which indeed is generally true (but only when markets are competitively structured), it would be very difficult for FERC to enter an order imposing wholesale price caps. As one Commissioner put it in the new order:

Today’s order is filled with repeated references to the perceived need for “price mitigation.” As a general matter, I find the concept of “price mitigation” to be an offensive one. Government should not be mitigating prices. It is ill-equipped to do so and efforts invariably back-fire to the detriment of consumers. Rather market participants—primarily energy suppliers and energy consumers—should be entrusted with the ability and the responsibility to mitigate their price

264. *Id.* at App. D.

265. *E.g.*, the order set \$250 per megawatt-hour as a breakpoint price for generator bids into the Power Exchange. Sellers could receive a higher price, but the higher price would not set the market clearing price for all other sellers. Also, FERC required additional reporting and monitoring so that FERC could investigate possible market power. Yuffee, *supra* note 257, at 75.

exposures as they deem best.²⁶⁶

The December order did not succeed in either taming prices or stabilizing the market. In fact, things got worse. Even though far less electricity was consumed in January 2001 than in August 2000 (when no emergencies or rolling blackouts actually occurred), January prices were much higher and emergencies or rolling blackouts occurred with frequency.²⁶⁷ Many economists, especially those in the think tanks that became a growth industry unto itself during the era of deregulation, had a ready explanation, true to their trust in free markets: Price caps always back-fire and result in shortages and higher prices. The economics profession lined up in an ideological tug-of-war for the public's opinion. A group of ten prominent economists called for price controls in California to the great dismay of another set of economic eminences holding the line for free markets and the removal of retail price caps.²⁶⁸

Yet, there are two, far more plausible, explanations for why the December order actually made things worse. The order also addressed the issue of whether FERC was authorized under the Federal Power Act to refund to consumers that portion of the rates charged by generators that were found to be unjust and unreasonable. Despite having found that rates since May 2000 were not just and reasonable, FERC's legal analysis of the Federal Power Act concluded that FERC had no authority to issue retroactive refunds.²⁶⁹ The "filed rate doctrine" is a well-established principle of federal rate regulation. Under this doctrine, a regulated utility cannot charge rates other than those properly approved and filed with FERC as being just and reasonable. A corollary of the doctrine is that FERC only has the authority to change rates prospectively, after it has found that the existing rates are no longer just and reasonable. Thus, FERC cannot order retroactive refunds because this would amount to

266. San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Services, 93 FERC ¶ 61,121 (Nov. 1, 2000), Docket No. EL00-95-000, Order Proposing Remedies for California Wholesale Electric Markets (concurring opinion by Commissioner Hebert).

267. WOLAK, *supra* note 72, at 16.

268. See John Kelly, *The Missing Manifesto: What Economists Should Be Saying about Electric Utility Restructuring in the United States*, 2nd ANNUAL NORTH AMERICAN CONFERENCE OF THE U.S. ASS'N OF ENERGY ECONOMISTS/INT'L ASS'N OF ENERGY ECONOMISTS (Vancouver, Canada, Oct. 6-8, 2002). Mr. Kelly is the Director of Research for the American Public Power Association in Washington D.C.

269. San Diego Gas & Elec. Co. v. Sellers of Energy & Ancillary Services, 93 FERC ¶ 61,121, at 44, App. E (Nov. 1, 2000), Docket No. EL00-95-000, Order Proposing Remedies for California Wholesale Electric Markets (containing legal analysis of FERC's retroactive refund authority).

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retroactive ratemaking, prohibited by the Federal Power Act.

The filed rate doctrine made sense under cost-of-service ratemaking. In its November order, FERC addressed whether it would apply this doctrine to the new world of unregulated, market-based rates:

The Congress has refrained during the 65-year history of the FPA [Federal Power Act] from granting such [retroactive ratemaking] authority in part because of the uncertainty it would create in regulated wholesale markets for power. The FPA itself was created, not to redress traumatic and inequitable circumstances like this [the California crisis], but to provide rate certainty in a relatively static monopoly environment. It may be argued that the dynamic power markets of today may warrant changes in the Commission's refund authority, at least for extreme circumstances, but that does not help the Commission today as it considers rate relief to the citizens of San Diego for the summer just past.²⁷⁰

The most that FERC could legally do, according to its analysis, was to establish a "refund effective" date of October 2, 2000 (sixty days after San Diego Gas & Electric Company had filed its complaint that wholesale rates were not just and reasonable, initiating the investigations that led to the order). If subsequent investigation proved that rates were not competitive or that market power was being used to produce unjust rates, then FERC could require refunds for sales made from that date forward. This left five long months of soaring prices and steeple-like price spikes, from May to September 2000, outside of FERC's refund power.

This conclusion—that the filed rate doctrine applied to market-based rates—showed FERC to be a "paper tiger" in the jungle of unregulated markets.²⁷¹ The order virtually invited participants to game the system at will, knowing that FERC was not likely to be able to detect price manipulation due to market power from high prices caused by supply/demand imbalances and "legal" loopholes in a flawed market design. Although FERC found that the market-based rates of summer 2000 were not just

270. *Id.*

271. Duane, *supra* note 66, at 517.

and reasonable, FERC would not act to provide retroactive relief. Yet, FERC also refused to set a maximum ceiling price which would protect consumers in the future from the very prices which had been found to be unjust and unreasonable. In one observer's words: "The result was just what one would expect if the police were to walk away from an angry and drunken crowd that was already in a frenzy: The equivalent of outright looting occurred in plain sight."²⁷²

The second explanation is that the "soft" price cap set by FERC in its December order allowed dysfunctions in the natural gas market to spread quickly—indeed automatically—into the power markets. The soft price cap required generators to justify their bids to sell electricity at prices higher than \$150 per megawatt-hour by showing that their costs had increased. Market participants could seize this allowed pass-through of costs as an opportunity to use affiliate transactions or other methods to run up the price of natural gas, a key input cost for power generation, to justify bids exceeding the \$150 soft cap. FERC had no process in place to review the prudence of these costs under market-based rates. By contrast, such a prudence review is a standard feature of cost-of-service ratemaking.²⁷³ As the FERC Staff's Final Report of March 2003 found, the manipulation of gas prices by market participants was pervasive.²⁷⁴ Nor did FERC have accurate data on plant capacities and input prices to be able to conduct prudence reviews to gauge physical withholding of generation or the manipulation of input costs.

California's response, in turn, was to blame "outsiders" — merchant power generators and energy traders like Enron, headquartered in Houston, Texas—for the spikes in wholesale prices and to blame FERC for failing to control them. When little help from FERC was forthcoming, the state took active steps to try to manage its way out of the chaos. In January 2001, it authorized a small, 7 to 12 percent increase in retail rates to residential users. In February, it authorized the Los Angeles Department of Water Resources to enter into long-term, bilateral contracts to purchase electricity on behalf of the utilities (which were either in or close to bankruptcy) so that consumers would no longer be dependent on the volatile spot market, and arranged for the bonding authority to pay for these contracts.²⁷⁵ The state

272. *Id.*

273. WOLAK, *supra* note 72, at 17, 22–23.

274. See text *supra* at Section III(F)(4).

275. Yuffee, *supra* note 257, at 83–84.

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also mandated conservation efforts, provided monetary incentives to conserve, and expedited the construction of new generating plants. In late March 2001, the state raised retail rates significantly.²⁷⁶

FERC's December order was followed by an April order, which marked a somewhat more aggressive stance. Electricity prices typically fall in the winter in California because demand is less, but this pattern did not hold, raising further suspicions of market power and manipulation. The "soft" price mitigation measures had clearly not worked, so FERC's April order set another, more sophisticated, method of mitigating prices through proxy prices, although it still did not impose a maximum price cap on wholesale prices.²⁷⁷ FERC did, however, begin an investigation of power markets in the entire Western region. By now, FERC understood the obvious: What was happening in California had large ripples, indeed waves, in energy markets, electricity prices, industries and jobs in states like Nevada, Oregon and Washington. California was part of an interconnected grid, and all the western governors, even conservative Republicans, wanted federal action to end the crisis. After the April order, electricity prices in California dropped significantly.

Finally, on June 19, 2001, FERC issued a strong and comprehensive order, relying on the price drop that had followed its April order as justification. FERC extended its price mitigation plans to the entire western region. This order, for the first time, prevented "megawatt laundering"—shipping electricity out-of-state and then reselling it back to California to avoid price mitigation measures for sales within California. The crisis ended. The market had been (mostly) tamed.²⁷⁸

In that same month, the General Accounting Office (GAO)

276. California's response to the crisis has also been criticized as slow, particularly its reluctance to allow its three utilities to enter into long-term bilateral contracts in the forward markets rather than buying all power from the spot market (the Power Exchange) to protect against price volatility. *Id.* at 81. *But see* text *supra* at notes 72 to 73 and footnote 72.

277. The order set a maximum "market-clearing price" based on the bid of the highest cost, gas-fired unit located in California that was needed to serve the load when the reserve margin fell below 7 percent. The bid would reflect the actual price of gas traded at wholesale (as measured by indices published in sources such as *Inside FERC* or *Gas Daily*) plus an adder for operating and maintenance costs. At the time FERC issued this order, it had not discovered the pervasive misreporting and manipulation of natural gas prices that infected the process of publishing the gas price indices).

278. Although the June 2001 order was successful in taming the market, it was not until February 2002 that FERC followed through on its earlier findings in the December 2000 order that power sellers had the potential to exercise market power. FERC INITIAL REPORT 2002, *supra* note 117.

released a report that compared the results of three different studies that had been completed to assess why prices had increased so much in California.²⁷⁹ The first was a report by FERC, completed in February 2001, which concluded that generators were not withholding physical supplies from the market to drive up prices. FERC investigators had conducted phone interviews with generating companies to verify the reasons for the large number of outages that were occurring. FERC staff also visited three plant sites. In every case, FERC found that legitimate repairs or maintenance were being performed on the downed plants.²⁸⁰ The report did not analyze whether the companies were using other techniques, such as strategic bidding, to influence prices.

The GAO criticized FERC's study of outages as not thorough enough to support its overall conclusion that the companies had not withheld supplies. Industry experts that the GAO had consulted stated that it is practically impossible to determine whether outages are legitimate, because plants are often run despite having some physical problems and because the timing of repairs is a judgment call by plant owners or operators. FERC had no data on past outages to use as benchmarks for comparison. Without a baseline, FERC could not justifiably conclude that the outages were normal. Yet FERC's report had been widely used by the generators in the mass media as evidence that "incorrect and inflammatory allegations" of withholding had been made against them. The GAO report chided FERC as follows:

FERC's report comes on the heels of some of the most dramatic electricity price increases in history [T]he public and others were looking for clear answers as to whether sellers . . . were withholding power in an effort to raise prices FERC's views, opinions, and orders clearly send important signals to the marketplace, including the investment community, and influence public confidence. We believe that, as the federal government's market-monitoring entity, FERC has

279. U.S. GENERAL ACCOUNTING OFFICE, ENERGY MARKETS: RESULTS OF STUDIES ASSESSING HIGH ELECTRICITY PRICES IN CALIFORNIA (GAO-01-857, June 2001).

280. The other two reports were by academic economists in energy research centers at Berkeley and M.I.T. These econometric studies had found strong evidence of market power, as discussed in the text *supra* accompanying notes 129 to 140. One of the studies found that the level of outages experienced during June 2000 could not be explained by any reasonable expectations about repairs or maintenance operations.

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an important responsibility to fully investigate
potential market power²⁸¹

In November 2002, the Senate Committee on Governmental Affairs released a staff report that investigated FERC's oversight of Enron. Its conclusion, accepted by both the majority and minority staff, found that FERC "was no match for a determined Enron." Embedded in FERC's regulatory philosophy and practice of light-handed regulation, was "a shocking absence of regulatory vigilance on FERC's part and a failure to structure the agency to meet the demands of the new market-based system that the agency itself has championed."²⁸²

The majority report found that FERC had yet to prove that it could meet the challenge of proactively monitoring changing energy markets.²⁸³ FERC needed a "total cultural reorientation of its regulatory approach" if it was to be an effective regulator and protector of the public.²⁸⁴ The minority staff report took the view that the current FERC, chaired by Pat Wood, and with some new members in place, had put a new regulatory culture in place. Most importantly, it had created the new Office of Market Oversight and Investigation, staffed largely by new hires from outside the government, who had the ability to deliver swift, decisive, and effective enforcement.²⁸⁵ Thus, when the FERC staff from this new office issued its long-awaited "Final Report On Price Manipulation in Western Markets" in late March 2003, FERC's ability to meet the challenges of the marketplace was on the line for all to judge. The major findings and recommendations of this important report, which is likely to be cited many times in settlement agreements and litigation and in policy debates in many state, regional and federal forums, were discussed in Section III(F) *supra* of this article.

281. GAO, CONCERTED ACTIONS NEEDED, *supra* note 258 at 10.

282. MAJORITY STAFF REPORT, SENATE COMM. ON GOVERNMENTAL AFFAIRS, STAFF INVESTIGATION OF FERC'S OVERSIGHT OF ENRON CORP. 2 (Nov. 12, 2002).

283. *Id.*

284. *Id.* at 48.

285. Minority Staff Views (included as separately paginated report at the end of the MAJORITY STAFF REPORT), *supra* note 282, at 6. Another General Accounting Office report, released in June 2002, sought to determine how FERC had revised its oversight functions and how it was meeting its management challenges in regulating the new power markets. The report found that FERC was still struggling to educate itself about the new markets, rather than actually oversee them. FERC Chair Pat Wood III thanked the GAO for its insights and attached FERC's plans to establish the Office of Market Oversight and Investigation and recruit talented staff. Much of the GAO report discusses the "daunting human capital challenges" that FERC faces in monitoring electricity markets. GAO, CONCERTED ACTIONS NEEDED, *supra* note 258, at 55-68.

V. REFORMS—ACTUAL AND PROPOSED

“If you want a nice game because electricity is an important public good, then set up a nice game. Energy trading is a football game; it ain’t bridge.”

R. Martin Chavez, former head of risk management for energy trading at Goldman Sachs.²⁸⁶

“The carnage that just a few wash trades have wreaked on the CEOs and top executives is enough to probably keep that behavior from happening whether it is banned under the law or not.”

Pat Wood III, Chair of FERC, July 2002.²⁸⁷

The question, then, is whether FERC, and other agencies with relevant jurisdictional powers, now have the resources, expertise and will to regulate energy markets so that the public can trust that these markets are structured correctly and monitored carefully. On the other hand, perhaps the financial carnage unleashed by scandal upon scandal in the energy markets, will lead a shaken, but wiser, energy sector to reform itself. This section of the article discusses reforms that have been implemented or proposed at three levels: first, in Congress; second, at FERC; and third, within the industry itself.

A. Reforms in Congress

While several reform proposals have been offered in Congress, nothing like a Sarbanes-Oxley Act reforming corporate governance has been passed, or even proposed, specifically addressing energy markets. Bills have been introduced prohibiting “round-trip trading” and “market manipulation” and substantially increasing the civil and criminal penalties that can be imposed for violating the Federal Power Act or FERC orders.²⁸⁸

286. Neela Banerjee et al., *Will It Be California Redux?*, N.Y. TIMES, May 12, 2002, Sec. 3, at 1, 10.

287. *FERC Chief Would Support Ban on Wash Trading*, REUTERS, July 24, 2002 (ECP online).

288. Howard. H. Schafferman, *Federal Regulatory and Legislative Initiatives: Encouraging More, and Fairer, Energy Competition*, in STATE BAR OF TEXAS, OIL, GAS & ENERGY LAW SECTION, GAS AND POWER INST. at 1 (Houston, Tex., Nov. 14, 2002). A round-trip trade is defined as a “transaction, or combination of transactions, in which a person or other entity enters into a contract or other arrangement to purchase or sell electric energy [and] simultaneously arranges a financially offsetting trade for the same such electric energy,” which then “deceptively affects reported revenues, trading volumes, or prices.” Market manipulation is defined as “entering into any arrangement for the purchase or sale of electric energy at wholesale with the specific intent to deceptively

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Currently, the penalties are so low (from \$500 to \$5,000 per day) that they are hardly a deterrent. Proposals would also amend the Federal Power Act so that potential refunds can begin on the date of filing a complaint or the date of publication by FERC of its intention to initiate proceedings, rather than sixty days after a complaint is initiated.

The bill with the most “teeth” to it would give the Commodity Futures Trading Commission (CFTC) regulatory powers to oversee over-the-counter energy derivatives, set higher reporting requirements to increase market transparency, and establish capital requirements for online trading platforms like EnronOnline. The bill would also establish a liaison relationship between CFTC and FERC to better monitor commodities trading. It would prohibit trading in certain energy commodities that is intended to defraud, mislead or manipulate market prices, and would set up a permanent structure to coordinate the work of the CFTC, FERC, SEC, Federal Trade Commission, and the Federal Reserve Board in assessing conditions in energy trading markets and any regulatory changes needed.²⁸⁹

Some of these reforms are the very ones discussed by the Presidential Working Group on Financial Markets created after the spectacular collapse of the Long-Term Capital Management hedge fund.²⁹⁰ Its 1999 report recommended that electronic exchanges for energy commodities no longer be exempt from CFTC regulation. Enron’s two dozen lobbyists were quickly dispatched to lobby for keeping bilateral electronic trading exchanges like EnronOnline exempt. The exclusions definition in the Commodity Futures Modernization Act of 2000 was so close to describing EnronOnline that the financial community called it “the Enron exclusion.”²⁹¹ Indeed, a lobbyist for an Enron-led group negotiated major aspects of the bill directly with regulators.²⁹² Enron’s expansion plans centered on financial derivatives, and its successful campaign left energy derivatives

affect reported revenues, trading volumes or prices.” *Id.* at 14–15, nn. 56–57. Violators would be subject to fines of \$1 million.

289. *Id.* at 10. Senator Dianne Feinstein of California introduced this bill.

290. This hedge fund bet on the wrong direction of interest rates and lost several billion dollars. Its derivatives were connected to more than one trillion dollars in underlying securities. The Federal Reserve Board organized a \$3.5 billion bailout of the hedge fund by fourteen investment banks.

291. FOX, *supra* note 15, at 216. Wendy Gramm, a former head of the CFTC, served on the Enron board. Senator Phil Gramm of Texas, Wendy Gramm’s husband, was the senior Republican on the Senate Banking Committee that participated heavily in drafting the 2000 bill.

292. Michael Schroeder & Greg Ip, *The Enron Debacle Spotlights Huge Void in Financial Regulation*, WALL ST. J., Dec. 13, 2001, at A1.

and the EnronOnline platform free of federal oversight. Commentators view the current bills that propose to prohibit round-trip trading as efforts to deflect consideration of the stronger proposals to regulate energy derivatives.²⁹³

B. Reforms at FERC

1. The Office of Market Oversight and Investigation (OMOI)

This new office is now collecting enormous amounts of data to police energy markets and initiate investigations or regulatory reforms. For example, FERC has collected more than 1,200 gigabytes of electronic data, hundreds of thousands of e-mail messages, and hundreds of boxes of material in response to its May 2002 data requests to all sellers in the western region.²⁹⁴ Some of the data collected has been used to issue orders to companies to show cause why their market-based rate authority should not be withdrawn because it is being abused. In April 2002, FERC issued an order making major changes to all the market data reported to FERC. Companies must now file electronic quarterly reports with summaries of contract terms and conditions of service, including both sales at market-based rates, cost-based power sales, and transmission and other services, for both short-term and long-term contracts. The data is posted on FERC's website to provide greater price transparency, a better means to detect discrimination, affiliate abuses, and increase confidence in the fairness of markets.²⁹⁵

In late 2002, FERC passed a final rule that directs public utilities, natural gas companies and pipelines to report changes in the fair value of certain investment securities, derivatives and hedging activities. These measures will allow FERC to understand the nature and extent to which derivatives and hedging are used by regulated companies and their impact on the companies' financial condition. FERC severed from the final rule an inquiry into whether power marketers and power producers should still be allowed to receive waivers from certain accounting rules.²⁹⁶ At about the same time, the Financial Accounting

293. Schafferman, *supra* note 288, at 10.

294. *Id.* at 13.

295. *Id.* at 9.

296. FERC News Release, *Commission Expands Accounting Regulations, Enhancing Transparency of Financial Information*, Oct. 9, 2002 (Docket No. RM 02-3-000), available at 296. FERC News Release, *Commission Expands Accounting Regulations, Enhancing Transparency of Financial Information*, Oct. 9, 2002 (Docket No. RM 02-3-000), available

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Standards Board (FASB) eliminated the use of mark-to-market accounting on energy-related contracts involving the physical delivery of the product, and FASB officials said they would investigate changes in valuation techniques of derivative instruments in the coming year.²⁹⁷

2. Defining Market Power to Prevent its Exercise

In 2001, Independent System Operators in New England and New York joined the California ISO in reporting to FERC instances of potential market abuse, price manipulation and supply withholding.²⁹⁸ These reports forced FERC “to face the fact that it had no really effective tools with which to address these problems. FERC had never specifically defined market power or market abuses, so there were no particular prohibitions for the FERC to enforce.”²⁹⁹ Yet, over the past ten years, FERC had granted many generation owners the authority to sell power at market-based rates after an assessment that they lacked market power. The only monitoring of generators who had been granted the market-based rate authority was a requirement that they submit updated information every three years so that FERC could reexamine market power issues.

In the understated tone of an American Bar Association report, FERC “unfortunately”³⁰⁰ used an antiquated standard, the “hub and spoke” test to assess market power potential. This test ignored very real problems such as transmission constraints along congested bottlenecks,³⁰¹ and was described by one FERC Commissioner as a test that no seller ever failed, so it was not a test at all.³⁰² Once market-based rates were granted, FERC had no provision for their revocation based on anticompetitive

at <http://www.ferc.gov/press-room/pr-archives/2002/2002-4/10-09-02-ACCOUNTING.pdf>.

297. Jonathan Weil, *Energy Traders Feel the Effects of FASB Changes*, WALL ST. J., Oct. 28, 2002, at A8. The FASB also now requires that energy trading profits be reported “net” rather than “gross.” The net measure only allows profits from a contract to count as revenues, rather than the entire amount of the contract. With this change came the Big Shrink. One merchant company ranked as number 334 on the Fortune 500 list in June 2001 with revenues of \$5.2 billion, found its revenues shrunk to \$132 million in June 2002 under the new “net” rule. Carol J. Loomis, *Revenues Go Down the Pipe*, FORTUNE, Oct. 28, 2002, at 31.

298. ABA YEAR IN REVIEW 2001, *supra* note 145, at 31.

299. *Id.*

300. *Id.*

301. FEDERAL TRADE COMM’N STAFF REPORT, COMPETITION AND CONSUMER PROTECTION PERSPECTIVES ON ELECTRIC POWER REGULATORY REFORM 11 (Sept. 2001). Under the hub-and-spoke test, FERC looks at the generating company’s share of total capacity that is directly connected to the local demand area (the hub) or that can reach the hub using any affiliated transmission system owned by the generator.

302. *Id.*

conduct. The California meltdown showed the devastating effects that the exercise of market power could wreak. One economist estimated, through a simulated model, that a less concentrated pattern of divestiture of the three utilities' generating capacity in California could have saved consumers nearly \$2 billion in energy costs in the summer of 2000.³⁰³ Yet, the divestiture was widely thought to be successful because it deconcentrated the generating industry by moving assets once owned by utility monopolies to independent power producers like Duke and Dynegy.

In November 2001, FERC proposed a new screening test for market power: the Supply Margin Assessment, or SMA test. Under it, FERC compares the difference between a generating company's capacity and the demand load in control areas. Thus, if an area has a supply reserve margin of 15 percent (i.e., 15 percent more electricity can be generated if needed to service the peak load), but a generator owns 20 percent of capacity in that area, the generator will not pass the SMA screen. It has the power, by unilaterally withholding its capacity, to create shortages at a time of peak demand. Applicants for market-based rates that fail the SMA screen are required to offer uncommitted capacity under a form of cost-based rates.³⁰⁴

In another November 2001 order, FERC conditioned any generator's authority to charge market-based rates on the following: "Seller is prohibited from engaging in anticompetitive behavior or the exercise of market power. The seller's market-based rate authority is subject to refunds or other remedies as may be appropriate to address any anticompetitive behavior or exercise of market power."³⁰⁵ FERC identified physical or economic withholding of supplies, either unilaterally or collusively with other generators, as examples of potential anticompetitive conduct.

Will these reforms improve competitive forces in the electric power markets? Some energy scholars believe that the new SMA test may not be much better than the hub-and-spoke

303. BUSHNELL, *supra* note 71 (suggesting the use of econometric models of the power industry to assess the competitiveness of market structures, but questioning whether these models are accurate enough to be used to guide policy decisions.).

304. See ABA YEAR IN REVIEW 2001, *supra* note 145, at Tab A, 15–16. FERC applied its new market screen test to three major energy companies—Southern Co., Entergy, and American Electric Power (AEP)—in November 2001. However, FERC then voted in December 2001 to conduct a rulemaking process on its new market-screening test before applying the test generally.

305. 97 FERC ¶ 61,220, at 2 (Nov. 2, 2001), Docket No. EL01-118-000, Order Establishing Refund Effective Date and Proposing to Revise Market-Based Rate Tariffs and Authorizations.

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test, and, indeed, it may be worse.³⁰⁶ FERC's new definition of anti-competitive behavior is criticized for being so broad that it is likely to snare the good with the bad, thus discouraging efficient behavior and investment in the power sector—and in response to a barrage of industry criticism, FERC has backed away from it. In addition, the enforcement costs of trying to correctly separate good from bad behavior are huge, as is evident from FERC's current struggles to determine what level of refunds, if any, should be awarded to California consumers. Because of the unique nature of electricity, it is virtually impossible, even with enormous hearing records and massive data collection and econometric simulations, to identify which parties have engaged in anticompetitive behavior and how their actions affected these quick-silver markets.³⁰⁷ Moreover, enhancing price transparency by posting pivotal suppliers' costs or bids can actually facilitate tacit collusion and gaming by market participants.³⁰⁸

In sum, experience to date from all parts of the world shows that power market designs are complicated, often flawed, and therefore subject to frequent revision. Market flaws allow participants to engage in profit-maximizing behavior that may not benefit consumers. Should these participants be held responsible for exploiting legal loopholes in dysfunctional markets?³⁰⁹ No matter how "offensive" the behavior may be, our system of justice is not based on punishing those who follow the rules, even though the rules are bad.

In its November order on the new SMA screen, FERC announced that it would allow market-based rate approval, without any screening test at all, for all sales of electricity within an ISO- or RTO- region that has FERC-approved market monitoring and mitigation measures. (An RTO is a Regional Transmission Organization, a larger, super-sized ISO that regulates an interconnected grid covering several states.) FERC's rationale is that any mistakes at the front-end in market design will be caught at the back end by strong, astute market monitoring units. Such an approach puts enormous responsibility on the monitors to police the market and detect and enforce violations after they have occurred and to revise the

306. Peter Fox-Penner et al., *Competition in Wholesale Electric Power Markets*, 23 ENERGY L. J. 281, 317–36, 344–48 (2002) (asserting that the SMA test has complex effects on incentives to build new power plants and may well retard new entrants, thereby worsening the supply margin in an area).

307. *Id.* at 310–17.

308. *Id.* at 332–33.

309. *Id.* at 291–92.

system when it finds flaws.³¹⁰ Issuing retroactive refunds after a lengthy investigation, followed by possible changes in market rules, is a far less preferable approach than assuring that markets are structured to work well before competitive forces are unleashed. Market participants need to have a set of stable and certain rules to follow, and regulators must be able to detect violations so that the threat of enforcement is a real deterrent.

Can this be done? FERC's vision of a Standard Market Design proposed in a massive rulemaking in 2002, and then revised and recast as a Wholesale Market Platform in 2003, says it can be done. Still, without competitive market structures in place, FERC must increasingly regulate market behavior, the very antithesis of deregulation's principal goal. The FERC proposals for wholesale electricity market design are discussed *infra* in this section of the article as the fifth reform.

3. Preventing Affiliate Abuse

“No inappropriate information ever gets communicated in our company between those two segregated segments of our business.”

William Wise, Chair of El Paso Corp.³¹¹

“[FERC staff] recognizes the reality than an individual cannot segment his or her brain, and once an individual learns information, he or she is likely to utilize it.”

FERC Staff Report on Standards of Conduct.³¹²

Efficient and fair energy markets require that the “pipes and wires” that form the transportation grid for gas and electricity be available on an open access basis, without discrimination, between shippers. For years, FERC has struggled to achieve this goal. A key requirement is that a transmission provider's employees function independently from sales, marketing, and other energy affiliate employees. As the close relationship between El Paso Corporation's pipeline and trading units surfaced as a possible cause of high prices in California, FERC proposed a rulemaking that would impose a single set of standards of conduct to govern the relationship between

310. *Id.* at 282, 286–88, 336–42.

311. *FERC Releases El Paso's Calif Strategy Documents*, REUTERS, Dec. 2, 2002 (ECP online).

312. STAFF OF FEDERAL ENERGY REGULATORY COMM'N, NOTICE OF STAFF CONFERENCE ON STANDARDS OF CONDUCT FOR TRANSMISSION PROVIDERS, STAFF ANALYSIS OF MAJOR ISSUES RAISED IN COMMENTS 21 (Apr. 25, 2002) (Docket No. RM01-10-000).

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regulated transmission providers (of both gas and electricity) and all of their energy affiliates.³¹³ The proposal broadened the definition of affiliate to cover a much wider spectrum of activities being performed by the new breed of energy company and to forbid any preferential sharing of transmission information to them. Among other proposed regulations, every transfer of an employee from one affiliate to another would have to be posted on the electronic bulletin boards. The proposal also asked for comments on more severe remedies to curb affiliate abuse, such as the structural remedies of divorcement (prohibiting affiliates from doing business with each other) and divestiture (requiring a spin-off of assets) as an alternative to the current behavioral prohibitions imposed under FERC's Code of Conduct for affiliated transactions.

In its proposal, FERC recognized that significant changes in the industry had occurred since the Code of Conduct was adopted almost fifteen years ago. The industry had become ever more consolidated through mergers, and many types of new affiliates had appeared, creating more potential for abuse in transmission services, power sales, and even in siting new generation.³¹⁴ Gas markets now involved both physical and financial transactions by marketing and non-marketing pipeline affiliates. Further, gas pipeline companies now had affiliates in the electricity business that had seen an explosion in the growth of lightly regulated entities such as power marketers.

The FERC staff's discussion of the behavioral rules to apply to affiliates centers on the difference between "the automatic imputation rule" and the "no conduit" rule. The first rule is much stricter and holds that a shared employee who works for both the pipeline and its marketing affiliate is automatically held to have disclosed confidential shipper information to the marketing affiliate upon receipt of the information. A violation of this behavioral rule asks the simple question: Did the shared employee receive any confidential shipper information? If so, it is imputed to the marketing affiliate, without asking if the employee actually disclosed the information by acting as a "conduit" to the affiliate. The natural gas pipeline industry is subject to the "automatic imputation" rule.

FERC uses the "no conduit rule" in its electricity standards of conduct. Shared non-operating employees (including officers and directors) can receive confidential information as long as

313. 96 FERC ¶ 61,334, at 1 (Sept. 27, 2001), Docket No. RM01-10-000, Notice of Proposed Rulemaking: Standards of Conduct for Transmission Providers.

314. *Id.* at 5-7.

they do not act as a conduit for passing it along to affiliated wholesale merchant employees. In harmonizing the Codes of Conduct for both sectors, the FERC staff found the automatic imputation rule to be the better one. Put simply, the human brain cannot be “firewalled.”

Adoption of the stricter standard is vociferously opposed by the pipeline industry, especially by El Paso.³¹⁵ The final rule will have to be a complicated one because a transmission provider must communicate some crucial operational information to its merchant sales and generation affiliates in order to assure reliability of the transmission systems, especially in power markets. Divorcement and divestiture, while radical methods of preventing affiliate abuse, have the great virtue of simplicity. Whatever route is chosen to prevent affiliate abuse, coordinating the actions of the “de-integrated” or “functionally unbundled” owners that once operated as a vertically integrated utility, has proven to be quite difficult. At the technical conference called by FERC in April 2003 to discuss the “automatic imputation” rule, industry trade groups asserted that the proposed rule was irreconcilable with the dictates of the Sarbanes Oxley Act. This Act generally requires senior management to be fully informed about the financial position of their companies and affiliates. One company estimated that FERC’s policy would necessitate duplicate personnel at a cost of more than \$350 million over five years and even greater losses from lost efficiencies.³¹⁶

On the other hand, some oil and gas producers have long argued that pipeline companies should not be allowed to have marketing affiliates. As one producer put it: “They try to tell you the pipeline guys are on the 15th floor and the marketing guys are on 12, but, heck—they read the same intranet, they play on the same softball teams, . . . [and] are members of the same company.”³¹⁷ It is hard to argue with that logic.

4. Refunds and Market-Based Rates

One of FERC’s trickiest conundrums to resolve is how to subject a seller who is charging market-based rates, as authorized by FERC, to refunds if that seller is subsequently

315. El Paso’s predilection for transacting business through affiliates that share some of the same employees and board members is not inspiring confidence by investors. See David Barboza, *In a Battered Energy Industry, Talk of a New Conflict of Interest*, N.Y. TIMES, Nov. 6, 2002, at A1.

316. *Energy Groups, Southern Company Say FERC Proposal Conflicts with Sarbanes-Oxley*, DAILY REP. FOR EXECUTIVES, Apr. 15, 2003, at A-19.

317. David Ivanovich, *Hefty Fine by FERC Seals Deal/Williams Cos. Pay \$20 Million to Settle*, HOUS. CHRON., Mar. 18, 2003, at B7.

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found to have engaged in anticompetitive behavior or the exercise of market power, especially if the seller's actions are not directly prohibited by the system's rules and do not involve providing fraudulent or misleading information to regulators. FERC must always obey its mandate to assure that wholesale sales of electricity are made at "just and reasonable" rates. Yet, FERC must also promote a stable investment climate for generators and transmission owners needing a high degree of certainty that the contracts they have entered into will be upheld.

The issue has come to the fore in California—both in California's request for refunds on the extraordinarily high spot prices it paid during the crisis as "market-based rates" and in its efforts to now modify long-term contracts it entered into in spring 2001. At that time, still caught in the chaos of a dysfunctional market, the state signed many long-term contracts at prices ranging from \$60 to \$250 per megawatt-hour. After the crisis passed, the spot price of electricity in California fell to around the \$30 level.³¹⁸

In August 2002, FERC opened a rulemaking docket to determine the standard of review it would impose when faced with complaints that FERC-authorized market-based rates were not just and reasonable.³¹⁹ FERC is seeking to promote the sanctity of contract yet provide protection to electricity consumers by clarifying the standards under which FERC will modify contracts between buyers and sellers. Some courts have held that neither FERC nor a buyer can seek to modify a FERC-approved rate under the "just and reasonable" standard. Instead, these parties will be held to a higher standard of proving that the rates were not "in the public interest."³²⁰ FERC has proposed specific language that can be used in contracts if the buyer and seller intend to invoke the public interest standard of review to bind themselves and also to bind FERC if either party subsequently seeks to modify the terms of the contract. Absent

318. California negotiators sometimes signed contracts that denied the state any right to request FERC to review whether the wholesale prices in the long-term contracts were unreasonable. As CPUC Chair Loretta Lynch asked: "If they [the generators] thought this was a reasonable contract, why wouldn't they want FERC to uphold their deal?" *Critics Dispute Contract Clauses Barring FERC Investigation*, ENV'T & ENERGY DAILY, Oct. 15, 2001 (ECP online).

319. 100 FERC ¶ 61,145 (Aug. 1, 2002), Docket No. PL02-7-000, Standard of Review for Proposed Changes to Market-Based Rate Contracts for Wholesale Sales of Electricity by Public Utilities. FERC had authorized many market-based rates after finding that the sellers either lacked or had mitigated market power, but FERC's screening test for market power was a very poor one. See text *supra* accompanying notes 298 to 303.

320. See, e.g., *Boston Edison Co. v. FERC*, 233 F.3d 60 (1st Cir. 2000) (citing the venerable *Mobile-Sierra* doctrine).

such language, FERC will use the just and reasonable standard of review.

This proposed order was accompanied by two concurring opinions from three Commissioners. Commissioner Massey worried that a party with market power could force a weaker party to include the higher standard of review in a contract. Two other Commissioners wondered if the proposal had “gotten things backward.”³²¹ They would prefer a policy that applied the public interest standard unless the parties expressly invited FERC to apply a lower standard. All Commissioners were united, however, in the urgent need to provide the industry with greater certainty and stability in the contracts that they were signing. They strove to emphasize that, even under a public interest standard of review, FERC believed that it had enough authority to protect non-parties to the contract, i.e., the ultimate retail consumer of the wholesale electricity sold under these contracts.

As to California’s hope for almost \$9 billion dollars in refunds from generators who sold electricity at such high prices during the crisis, a FERC judge issued an initial decision that the state was owed \$1.8 billion in overcharges, but because the buyers still owed \$3 billion to generators and other sellers, California would have to write a check.³²² This initial decision is now pending before the FERC Commissioners. California will clearly receive a larger refund amount if the FERC Commissioners accept many of the recommendations in the Final Staff Report of Price Manipulation in the Western Market issued in late March 2003 and discussed *supra*.³²³

5. FERC Asserts Control: Standard Market Design

“A unanimous commission . . . shouts from the rooftops: ‘No

321. 100 FERC ¶ 61,145 (Aug. 1, 2002), Docket No. PL02-7-000, Standard of Review for Proposed Changes to Market-Based Rate Contracts for Wholesale Sales of Electricity by Public Utilities (Commissioners Brownell and Breathitt concurring).

322. San Diego Gas & Electric Co. v. Sellers of Energy and Ancillary Service into Markets Operated by the California ISO and the California PX, 101 FERC ¶ 63,026 (Dec. 12 2002), Docket Nos. EL00-95-045, EL00-98-042.

323. See text *supra* in Section III(F) of this article. Numerous appeals of California-related matters are proceeding before the Courts of Appeals for the Ninth Circuit and the D.C. Circuit, some of which are on hold pending FERC findings on market manipulation issues. AMERICAN BAR ASS’N, COMM. ON ENERGY INDUSTRY RESTRUCTURING, FINANCE, MERGERS & ACQUISITIONS, THE YEAR IN REVIEW 2002 REPORT 10 (2003); Timothy Egan, *Legacy of Power Cost Manipulations*, N.Y. TIMES, Dec. 22, 2002, at 24 (noting that the states of Nevada, Washington, Oregon and California also hope to get settlement money from their criminal investigations of more than a dozen energy traders, drawing on the cooperation of Timothy Belden, Enron’s chief trader in these markets, who pleaded guilty in October 2002).

more California-type marketplace meltdowns. No more runaway markets. No more bad market rules. No more confusion.’ “

FERC Commissioner William Massey, announcing the Standard Market Design (SMD) proposal, July 2002.³²⁴

“There is absolutely no reason why Californians should put their blind trust in regional transmission organizations that are not accountable to them.”

California Governor Gray Davis, responding to FERC’s SMD proposal.³²⁵

The mightiest proposed reform of energy markets is FERC’s massive draft order to impose a Standard Market Design (SMD) on wholesale electricity markets throughout the United States.³²⁶ The purpose of SMD is to “give the nation the benefits of a truly competitive bulk power system” and to promote “economic efficiency in electricity for the benefit of all Americans.”³²⁷ The rulemaking marks an “aggressive step to restore public confidence in competitive power markets.”³²⁸ While this article cannot explain all the elements of FERC’s 600-page blueprint for the future, several observations are warranted.

Most importantly from a public confidence standpoint, Appendix E of the SMD proposal methodically explains why a California meltdown using schemes like Fat Boy, Death Star, and Get Shorty could not occur under FERC’s plan. The Appendix goes further and looks at the market manipulation that had occurred in the eastern power markets, long touted as an example of successful deregulation. (These eastern markets include New York, New England and the PJM area composed of

324. Janet Elliott and David Ivanonich, *Deregulation of Electricity Across U.S. on the Table*, HOUS. CHRON., July 31, 2002, at 1C.

325. *Id.*

326. Remediating Undue Discrimination through Open Access Transmission Service and Standard Electricity Market Design, 67 Fed. Reg. 55,451 (Aug. 29, 2002) [hereinafter cited as FERC SMD Proposal]. In early 2001, Pat Wood III, as newly named chair of FERC, issued a precursor of FERC’s aggressive SMD strategy, by declaring in a public meeting that any utility which did not file plans for joining a Regional Transmission Organization (RTO) by December 2001 should expect revoked market-based rate authority for its affiliates, disapproval of all merger plans, and extra scrutiny of FERC-filed transmission rates. The announcement “stunned” the industry. See ABA YEAR IN REVIEW 2001, *supra* note 145, at Tab B, 22.

327. FERC News Release, *Commission Proposes New Foundation for Bulk Power Markets with Clear, Standardized Rules and Vigilant Oversight*, July 31, 2002 (Docket No. RM01-12-000), available at <http://www.ferc.gov/press-room/pr-archives/2002/2002-3/july31-02sdmx.pdf>.

328. *Id.*

Pennsylvania, New Jersey and Maryland). These markets have also been “gamed” by companies that reaped millions of dollars in the process,³²⁹ largely through physical and economic withholding of capacity, but the market abuses occurred with far less impact than in California. Many initially poor design features and software choices had been modified, and FERC’s SMD blueprint incorporated the improvements.

Two major lessons had been learned from the past. First, no market design can protect against market power due to structural conditions such as pockets of monopoly power and the lack of price-sensitive demand response. Markets simply cannot operate competitively under these conditions. Therefore, the SMD, like the eastern markets, includes market power mitigation rules.³³⁰ Second, market monitoring is critical to achieve the goals FERC seeks.

By taking aggressive control of the wholesale electricity market, FERC hopes to solve the costly problems that persist in the power market today: under-investment in needed transmission, unduly discriminatory behavior by transmission providers favoring their own affiliates and disadvantaging independent generators, and fundamental design flaws in certain markets. However, there is no perfect solution to a fundamental dilemma: Market power mitigation measures suppress price signals that are needed to reflect scarcity. High, “scarcity” prices serve to attract new investment to build supply where demand exists. However, it has proven to be nigh impossible to tell how much of a high price reflects scarcity versus the exercise of market power. Yet, if insufficient investment is made in generation and transmission, the power system will become more and more unreliable, risking blackouts.

For this reason, the SMD adopts a “resource adequacy requirement” that is not far removed from the central planning-type of efforts that state public utility commissions did under the old cost-of-service ratemaking system to assure that infrastructure was being built to serve the area’s needs. However, the SMD goes beyond state planning and requires that

329. In one case, the market flaw allowed one generating plant to reap \$8 million in excess energy payments from a certain bidding technique. In early 2001, a single firm was able to raise the price in the “daily capacity credit market” and sustain this exercise of market power for four months. FERC SMD Proposal, *supra* note 326, App. E, at 15–23.

330. See, e.g., FERC News Release, *Commission Proposes New Foundation for Bulk Power Markets with Clear, Standardized Rules and Vigilant Oversight*, July 31, 2002 (Docket No. RM01-12-000), available at <http://www.ferc.gov/press-room/pr-archives/2002/2002-3/july31-02sdmx.pdf>. Generating plants in load pockets served by congested lines are closely monitored and placed under contract to prevent bid price increases.

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individual states form larger units to coordinate and plan regional electricity markets. State commissions and the utilities that they regulate must now consider regional needs, not just their own state's supply/demand balance. Every load-serving entity is required to meet its share of the future needs of the region. If it does not, FERC will inform the state commission that the customers of that entity may be denied spot market energy in the event of a shortage. To many states, the SMD is a massive intrusion of federal power into the state's traditional preserve of regulating its own retail electricity markets. For the eleven western governors whose calls for early federal intervention into the California chaos were ignored, the scope of FERC's proposal was particularly galling.

After releasing its mega-proposal on Standard Market Design, the FERC Commissioners embarked on a road show to sell their vision to America, to the investment community, and to the market participants most directly affected by it. The reaction to the proposal was decidedly mixed. With some misgivings, many energy economists considered the proposal, with some changes, to be about as good as you can get.³³¹ SMD met with decidedly less favorable reviews from the states, especially states that currently have low electricity costs. The goal of the SMD is to provide "seamless" power transmission within and between large regions of the nation. In a competitive market, power will flow from low-cost areas to higher cost areas, which means that there will be both losers and winners under SMD. Low-cost area states do not want their cheap energy exported to others.³³² With FERC no longer a passive player on the restructuring stage, the politics of federal power versus states' rights now looms large.

In the face of determined opposition in Congress by key senators from both parties, FERC retreated from SMD and issued a White Paper in April 2003 with a "softer" vision of

331. See, e.g., William W. Hogan, *Electricity Standard Market Design and Infrastructure Investment*, Address at the Univ. of Houston Law Center, Inst. for Energy, Law & Enterprise, Annual Meeting (Houston, Tex., Dec. 13, 2002); but see Lynne Kiesling, *Inept Power Pricing*, REASON PUBLIC POLICY INST. (Aug. 13, 2002), available at <http://www.rppi.org/powerpricing.html> (FERC proposal is micromanagement that will deter innovation).

332. More than 220 parties had filed comments on the proposed SMD by November 15, 2002. Twenty-two states requested that FERC withdraw its proposal because it exceeded FERC's jurisdiction by asserting control over retail electricity markets. See, e.g., Bruce W. Radford, *FERC's Market Design: The End of a "Noble Dream,"* PUB. UTIL. FORTNIGHTLY, Feb. 15, 2003, at 22-28; Robert J. Granier, NAT'L REGULATORY RESEARCH INST., CONGESTION REVENUE RIGHTS: IMPLICATIONS FOR STATE UTILITY COMMISSIONS (Oct. 2002) (arguing that FERC's SMD proposal could hurt retail consumers by raising rates and allowing speculative trading in Congestion Revenue Rights for access to the transmission grid).

FERC's role in restructuring wholesale energy markets.³³³ FERC offered a "wholesale market platform" which now gives regional state committees more power to shape the market design as long as certain core features exist, such as the independence of the transmission operator from generators and having strong market monitoring.³³⁴ These committees no longer bear the word "advisory" in their name. No minimum level of resource adequacy is required at the regional level unless states willingly adopt this. While all utilities must still join Regional Transmission Organizations, states can determine their own timetables for implementing the regional planning, market design and monitoring that will bring the nation nondiscriminatory, transparent, and "seamless" markets in electricity—sometime in the future. The seams seem rather rough, however. For example, if a cost/benefit analysis shows that a particular feature of FERC's platform is not good for a region, that feature can be eliminated.

The White Paper clearly compromises the assertive stance that FERC took with its SMD proposal. Some analysts think that the dream of nationally standardized, competitive markets for electricity is dead, but that the greater regulatory certainty of a less nationalized scheme still moves the industry a step forward.³³⁵ Some merchant generators feel "hung out to dry" because the transmission grid will not become truly open and nondiscriminatory such that they can wheel electricity across states to buyers offering them the best price.³³⁶ It remains to be seen whether the states have been placated into accepting this weaker version of SMD. The FERC Commissioners are on the road again, pushing their new vision. One must admire their spirit and tenacity in trying to create electricity superhighways that benefit all drivers on the road. The California meltdown continues to be the traffic wreckage along the side of the highway that either makes their vision genuinely difficult for others to share or that provides political fodder for those who do not care to share it.

Meanwhile, with little new investment occurring in transmission, FERC proposed a scale of higher rates of return to utilities if they joined a Regional Transmission Organization or

333. Stephanie M. Ingersoll, *FERC Plans Market Redesign Revisions: Phase-In and Opt-Out Provisions Likely*, DAILY REP. FOR EXECUTIVES, Apr. 29, 2003, at A-34.

334. STAFF OF FEDERAL ENERGY REGULATORY COMM'N, WHITE PAPER ON WHOLESALE POWER MARKET PLATFORM (Apr. 28, 2003) (Docket No. RM01-12-000).

335. Nancy Spring, *SMD Goes Local*, UTILIPOINT ISSUE ALERT, May 1, 2003, at 2.

336. *FERC Buckles under Hill Pressure, Drops SMD Grid Plan*, ENV'T & ENERGY DAILY, Apr. 30, 2003 (ECP online).

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invested in transmission as part of the RTO planning process.³³⁷ These sweetened incentives are to lure new investors into the business because so many existing utilities with unregulated affiliates have taken a financial beating. State regulators and industrial consumers immediately protested that users should not bear the billions of dollars of increased costs for these incentives.³³⁸ Since transmission is only about ten percent of the cost of delivering electricity, the incentives may not increase retail rates by much, and rates might fall because of reduced congestion. The Department of Energy's study of the net benefits of Standard Market Design concluded that average wholesale electric prices would decrease by about one percent in 2005 and two percent by 2020.³³⁹ Neither of these estimates seems particularly reliable. Both suggest that consumers should not expect to see lower transmission prices in the future if higher incentives are needed to lure investment in transmission infrastructure.

C. Industry Self-Reforms: Codes of Conduct

“We do not tolerate abusive or disrespectful treatment. Ruthlessness, callousness and arrogance don’t belong here.”

Enron’s Code of Conduct.³⁴⁰

“Gaming may be a dirty word to FERC and the California commission, but the sooner the market clears out the distortions, the better it works for everyone. There may be ethical issues, . . . but there is a large region of opportunities between what is ethically viable (profitable) and ethically dangerous (illegal).”

Perot Systems employee to Pacific Gas & Electric executive, July 1997.³⁴¹

337. Elliot Roseman & Paul De Martini, *In Search of Transmission Capitalists*, PUB. UTIL. FORTNIGHTLY, Apr. 1, 2003, at 20–25.

338. *U.S. States Protest FERC Grid-Building Incentives*, REUTERS, Mar. 14, 2003 (ECP online).

339. U.S. DEP’T OF ENERGY, REPORT TO CONGRESS: IMPACTS OF THE FERC’S PROPOSAL FOR STANDARD MARKET DESIGN 17 (Apr. 30, 2003).

340. James S. Kunen, *If Only Enron Had Adopted a Lesser Set of “Values,”* HOUS. CHRON., Jan. 22, 2002, at 19A. Enron had a 64-page Code of Conduct and its vision and values were summarized in its motto “RICE” standing for Respect, Integrity, Communication, and Excellence.

341. Carolyn Whetzel, *Davis Asks SEC to Probe All Marketers of Electricity Using Questionable Tactics*, DAILY REP. FOR EXECUTIVES, June 25, 2002, at A-19. Perot Systems designed the software programs used in the California energy market. Documents indicate that Perot Systems consultants then tried to sell advice to Enron, Reliant and

The toxic dripfeed of revelations about gaming, manipulation, and accounting fraud has resulted in a near-death experience for many companies involved in energy trading. Indeed, many of them have amputated their trading arms to try and preserve the rest of their business. A year after the Enron bankruptcy in December 2001, the stock price “pulses” of the following companies that once rode the crest of deregulation read as follows:³⁴²

Enron.....	down 100%
Dynegy.....	down 97%
El Paso.....	down 87%
Williams.....	down 92%
AES Corp.....	down 82%
Calpine.....	down 87%
Mirant Energy.....	down 93%
Reliant Resources.....	down 88%
CMS Energy.....	down 60%
Duke Energy.....	down 50%

To resuscitate their stock and earn back the trust of investors, many companies involved in gas and power trading have banded together and promulgated codes of conduct to assure the public that they have sound business practices. Chief among these is the Committee of Chief Risk Officers, or CCRO, a group of 31 companies in the power trading business, including Dynegy, Duke, Mirant and Reliant. This group published a series of reports in November 2002 on Credit Risk Management, Valuation and Risk Metrics, Disclosure, and Governance, after seeking review of the reports by FERC, the CFTC, the SEC, and the Department of Energy.³⁴³ The reports cover “merchant

other participants in the market on how to game the system to make money. A 44-page slide presentation on how to manipulate the California market was found in Reliant's files; one slide provided an example of how to congest the Silver Peak transmission line discussed in text *supra* accompanying notes 120 to 122.. Janet Elliott, *Answers by Perot Don't End the Doubt*, HOUS. CHRON., July 12, 2002, at 1C; Crayton Harrison, *Former Perot Systems Employee Reportedly Wrote Energy-Pricing Document*, DALLAS MORNING NEWS, July 9, 2002 (ECP online). The Perot Systems documents were made available at <http://republican.sen.ca.gov/web/38/News/select.asp>.

342. John E. Olson, *Energy Markets at a Crossroads: Has Deregulation Failed?*, INT'L ASS'N OF ENERGY ECONOMICS CONF. (Houston, Tex., Dec. 12, 2002)(on file with author). The data presented are the percentage decrease in each company's stock price from October 15, 2001 to December 2002.

343. The CCRO Reports are available at <http://www.ccro.org/bestprac.html>.

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energy activities” defined as those activities done by companies when acting as intermediaries in the wholesale energy markets to physically deliver energy and financially manage price risk. The White Papers establish disclosure protocols that shine light inside the “black box” that Enron used so effectively to hide its mark-to-market accounting and risky derivatives trading from view. The papers also address such matters as the functions of the Board of Directors, proper oversight roles, such as keeping the Chief Risk Officer independent of the trading operation, and clearing arrangements that can reduce collateral requirements in trading activities.

The reports require that companies using “best practices” disclose their assumptions about future energy prices and how these projections would affect the value of their contracts. The companies should also explain how they set the value of their trading books and what types of financial models they use to evaluate risk. Scenario analyses and sensitivity analyses are recommended to evaluate the impact of sudden and extreme events on the company’s portfolio position. However, the best practices identified in the papers are aspirations only, and do not create any legally enforceable duties for members of the CCRO. Risk experts within the industry criticize the CCRO effort as “surprisingly timid” and “naïve.”³⁴⁴

A number of other trade associations, such as the Electric Power Supply Association and the National Energy Marketers Association, have also developed Codes of Ethics or Codes of Conduct to inspire public confidence. The Electric Power Supply Association is developing an ethics code that will condemn companies that defraud or misrepresent generation capacity in a manner calculated to affect market prices. Touting the core value of Integrity, members must pledge to conduct business in an “honorable and principled manner.”³⁴⁵

In February 2003, the CCRO issued a second plan of self-regulation to reform the reporting of gas and power prices to trade publications whose price indices are used in many thousands of contracts. Trades would have to be internally audited and name the counterparties. However, these voluntary reporting standards were panned by industry analysts as offering no real roadmap to reform because no one is forced to

344. David Anthony, *Where the CCRO Fell Short*, PUB. UTIL. FORTNIGHTLY, Jan. 15, 2003, at 23–26.

345. ELECTRIC POWER SUPPLY ASS’N, THE CODE OF ETHICS AND SOUND TRADING PRACTICES OF THE ELECTRIC POWER SUPPLY ASS’N, available at <http://www.epsa.org/positions/statements.cfm?what+793&keyID=793&sub=statements>.

participate.³⁴⁶ Many traders now simply refuse to give data to the publications. At a workshop conference called by FERC to discuss how to improve the price indices, several new entities proposed that they take over the indexing as independent third parties. Among them were the National Association of Securities Dealers, the University of Houston business school's Global Energy Management Institute, and a local Houston bank.³⁴⁷ The university's proposal would require trading companies to submit details of their trades, which the university would verify before aggregating and selling the indices as a non-profit clearinghouse. Confidential information such as names of counterparties would only be available to regulators. The current trade publishers are implementing tighter reporting standards and argue that new entities are not needed to reform the indices. Gas producers and large industrial consumers favor more active federal regulation of the price indices. The CCRO says that its Code of Conduct suffices.

Are such voluntary codes likely to be effective? A Harvard Business School professor thinks not, based on his real-world experience. Samuel Hayes, III, Jacob H. Schiff Professor of Investment Banking emeritus writes:

In 1995, I served on a small blue-ribbon committee, established by then SEC chair Arthur Levitt, to formulate best practices with regard to stockbrokers' activities and compensation. These were . . . voluntary standards of conduct, and all the big firms—and their leaders—agreed to follow them. But it wasn't long before one firm violated that understanding, and to avoid being put at a competitive disadvantage, everybody else began ignoring the recommendations too.³⁴⁸

346. *Bid to Revamp US Energy Indexes Seen Falling Short*, REUTERS, Feb. 27, 2003 (ECP online). Platts, one of the publishers of the price indices, had already proposed even stricter rules to help rebuild confidence in its indices which it estimates are used as the basis for calculating about \$10 billion daily in contracts. However, some companies simply will not release the names of counterparties to trades, even if the names are kept confidential by the compiler. FERC has largely left the issue of accurate reporting standards to the private sector to resolve, so it is not clear how companies will be forced to participate in assuring the accuracy of these indices.

347. Michael Davis, *Would-Be Gas Price Indexers Lining Up*, HOUS. CHRON., Apr. 25, 2003, at 1C.

348. Sam Hayes, *A Purposeful Walk Down Wall Street*, HARVARD BUS. SCH. BULLETIN, Oct. 2002, at 21, available at <http://www.alumni.hbs.edu/bulletin/2002/october/qanda.html>; Peter J. Howe, *Trading in Illusions Energy Sector's Sham Deals Draw Post-Enron Wrath and Jolt the Industry Back to Reality*, BOSTON GLOBE, June 2, 2002, at C1 (online). This "race to the bottom" by competitors emulating Enron was quite

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From that experience and others, Professor Hayes learned the fragility of effective self-regulation. Should market participants instead embrace codes of conduct enacted by regulatory agencies to shore up the “fragility” of voluntary codes? The Texas Public Utility Commission solicited comments on adopting such a Code of Conduct for wholesale electricity marketers in Texas, including comments on whether gaming and market manipulation should be defined in such a code, as it was in California’s system.³⁴⁹ Competitive wholesale and retail providers uniformly rejected such a definition. In their view, the market changes too quickly, and fact situations are too individual to permit any useful definition. Only violations of the actual letter of the detailed Texas market rules and protocols should be subject to penalties and other remedies. Violations of the “spirit” or “intent” of the protocols were too subjective and would discourage innovation and the ordinary pursuit of profit.

Yet, Paul Gribik, the Perot Systems consultant who helped design and test the California software system, wrote that he had found more than 1,000 loopholes in that state’s system and that a company would be foolish for not taking advantage of the “easy money” found in the loopholes.³⁵⁰ The Perot Systems presentation to market participants pointed out that the time lag between recognizing and closing gaps created a “window of opportunity” and “closing open gaps may open others.”³⁵¹ In light of the complexity of the market rules for electricity, market participants who do not want to self-regulate by hewing to the spirit as well as the letter of the rules will continue to seek to exploit loopholes in the intricate algorithms that define the markets. That is the very nature of a competitive capitalism.

evident. CMS did round-trip trades with Dynegy and Reliant that inflated its power-trading volumes by 80 percent, adding \$4.4 billion in make-believe revenues to its accounts. *Id.* A Canadian company, eager to look like a big-league player in energy trading, did round-trip trades with Reliant Resources to sell and buy back contracts for 90 billion cubic feet of gas, inflating its revenues by \$732 million. *Id.*

349. PUBLIC UTILITY OF TEXAS, SUMMARY OF CODE OF CONDUCT COMMENTS, available at <http://www.puc.state.tx.us/rules/rulemake/26201/102502pubcom.pdf>.

350. Janet Elliott, *Answers by Perot Don't End the Doubt*, HOUS. CHRON., July 12, 2002, at 1C. A Perot Systems spokesperson said that the company informed California officials about the loopholes and that they were corrected before the Power Exchange opened. *Id.*

351. Mitchel Benson & Scott Thurm, *Perot Systems Faces Heat in California*, WALL ST. J., June 6, 2002, at A3.

VI. THE FALLOUT

A. *The Direct Hits—the Energy Trading Companies*

“As Enron proved in spades, a trading house lives and dies by its reputation. Expect more funerals.”

The Economist, May 2002.³⁵²

The list of casualties in the table in the previous section shows the most direct effect of Enronitis on energy markets—the battered stocks of companies that engaged in energy trading and independent power production. Many of these companies have admitted to participating in some Enron-type schemes; others are still under investigation. Bankrupt Enron is the target of 25 separate governmental investigations and 135 formal requests for documents, and this tally does not count private lawsuits filed against Enron.³⁵³

Twelve leading energy merchant firms have lost a combined \$222 billion—or 86 percent of market capitalization between May 1, 2002 and July 23, 2002.³⁵⁴ Dynegy, Williams, El Paso and others have had to sell off billions of dollars of hard assets to remain afloat. A debt crisis looms in the U.S. power sector in 2003, when nearly \$25 billion in debt comes due.³⁵⁵ Forty percent of utility holding companies and half of merchant generators face possible ratings downgrades. Standard & Poor’s issued 135 credit downgrades of utility holding companies in the first nine months of 2002 and with nearly one-third of the major companies in the sector on watch for future downgrades, the industry had not yet hit bottom.³⁵⁶ A total of \$90 billion in medium-term debt will need to be refinanced over the next four years, and banks

352. *Prepare To Be Shocked—America’s Traders Under Investigation*, THE ECONOMIST, May 18, 2002, at 62–63.

353. *Enron Balks at Producing Data on Trader Bonuses*, REUTERS, Nov. 6, 2002 (ECP online). Enron pleaded with a FERC judge to relieve it from searching for documents requested by the city of Tacoma. The city wanted the documents to show that Enron made huge bonus payments to its trading employees to buy their silence in criminal prosecutions. *Id.*

354. Stephanie Ingersoll, *FERC Spares El Paso Market License: Fitch Warns of General Bankruptcy Risks*, DAILY REP. FOR EXECUTIVES, July 30, 2002, at A-9. Many of the companies likely to be subject to refund orders, after FERC’s investigations are complete, are so financially distressed that collecting refunds to pass back to California consumers will be difficult. *Id.*

355. Rebecca Smith, *Debt Crunch Expected for U.S. Power Sector*, WALL ST. J., Dec. 16, 2002, at C13.

356. Rebecca Smith, *Electric Industry Hits Credit Crisis*, WALL ST. J., Oct. 15, 2002, at A2.

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holding this debt are also at risk.³⁵⁷ Companies are stretching out debt maturities, shedding assets, slashing dividends, and hoping to stay alive until the economy recovers and energy demand picks up. As one example, Williams Company was downgraded twice in July 2002 and its below-investment grade rating meant it could not issue commercial paper, float bonds or sell new shares of stock. The company instead borrowed \$900 million from Lehman Brothers and Warren Buffett's Berkshire Hathaway, pledging gas reserves as collateral and paying an interest rate of 34 percent on a one-year loan.³⁵⁸

In addition to the costly, negative drain of devoting time and resources to document production in the lawsuits and investigations brought by government officials, some companies face shareholder lawsuits alleging their management violated securities laws and misled investors by hyping revenues with round-trip trading and other devices. El Paso is named in eleven antitrust lawsuits and has had to fend off a shareholder proxy battle brought by the redoubtable Oscar Wyatt who had sold the company he built, Coastal Energy, to El Paso, shortly before El Paso's stock plunged in value.³⁵⁹ El Paso's business plan calls for selling some \$4 billion in assets to raise cash.³⁶⁰

A new type of "round-trip" trading has blossomed. Investment bankers are growing rich on reselling the same assets they helped sell two years ago.³⁶¹ For example, Lehman Brothers helped Dynegy buy the Northern Natural Gas pipeline from a collapsing Enron in 2001, earning fees of \$5 million, and then arranged for a teetering Dynegy to sell the same pipeline to Warren Buffet's MidAmerican company in 2002, earning another round of fees.³⁶² During the energy boom from 1999 to 2001, investment banks advised on more than 400 energy mergers and

357. *Banks could Be Hard Hit Be Energy Merchants' Debt Woes*, PETROLEUM FINANCE WEEK, Nov. 11, 2002 (ECP online); Julie Creswell, *Power Failure: The Current Scandals Pale in Comparison to the Energy Industry's Biggest Problem: Massive Debt It Can't Repay*, FORTUNE, Dec. 9, 2002, at 187-88. In an odd way, Enron's bankruptcy fees are helping other companies in the credit crunch. Nearly everyone in the electricity and gas industry is a creditor to Enron, and they view with horror Enron's hemorrhaging of cash in legal fees during bankruptcy. So, lenders and creditors are working to keep troubled power firms out of bankruptcy. *Id.*

358. Rebecca Smith, *Electric Industry Hits Credit Crisis*, WALL ST. J., Oct. 15, 2002, at A2.

359. David Barboza, *Suit in Texas Says El Paso Contrived Energy Trades*, N.Y. TIMES, Nov. 22, 2002, at 3C.

360. Michael Davis, *El Paso Selling Interest in Pipeline*, HOUS. CHRON., Oct. 12, 2002, at C2.

361. Andrew Ross Sorkin, *These Energy Round Trips Produce Cash for Wall Street*, N.Y. TIMES, Aug. 20, 2002, at C1.

362. *Id.*

acquisitions worth more than \$1 trillion, reaping billions in fees.³⁶³ Now these same energy companies are selling the same assets that they acquired on the advice of the same bankers.³⁶⁴

Trading itself has shrunk as an activity. In electricity markets, trading volumes dropped 70 percent between July 2001 and July 2002.³⁶⁵ Even the relatively well-functioning PJM market saw volume drop 38 percent in July 2002 compared to July 2001.³⁶⁶ Crude oil brokers also report that trading volumes dropped significantly.³⁶⁷ With fewer traders in the market, bid and ask prices widen, making it more difficult to close a deal. Trading also becomes more concentrated in major oil companies like Shell and BP.

With their credit-worthiness at risk, Calpine, Dynegy, Reliant Energy and others face tightened standards and conditions from pipelines shipping their gas. Some pipeline companies have proposed a new rule allowing them to seize the natural gas of defaulting shippers, so that the pipeline can leapfrog over other creditors.³⁶⁸ Another proposal would allow pipelines to terminate a contract on three days' notice if a shipper's financial condition suffered a rapid deterioration; and yet another would require more than three months' prepayment by a shipper for a multi-year contract.³⁶⁹ All of these proposals have triggered yet another FERC docket.³⁷⁰ More stringent credit standards and higher collateral requirements imposed on

363. *Id.*

364. *Id.*

365. *Power Trading Volumes Plunge*, BUSINESS WIRE, Aug. 13, 2002 (ECP online).

366. Rebecca Smith & Kathryn Kranhold, *Regulators Report Evidence of Possible Manipulation by Three Energy Companies*, WALL ST. J., Aug. 12, 2002, at A3.

367. *Energy Trading Woes Stifle U.S. Crude Market Liquidity*, REUTERS, Aug. 21, 2002 (ECP online).

368. *Firm Wants Tighter Credit Standards*, OIL DAILY, Oct. 16, 2002 (ECP online).

369. *Id.* Calpine estimates that the pipeline's proposed credit changes would raise potential prepayments required of shippers by 400 percent. In defense of these proposals, one pipeline said business from shipping companies that were below investment grade or had junk bond status increased from 4 percent to 13 percent of total revenue over the last year. Because gas pipelines are prohibited from recouping bad debt by passing the losses to other customers through higher shipping rates, the credit risk of transporting the gas of financially weak customers is high. *El Paso Pipeline Defends Credit Rules to FERC, Shippers*, REUTERS, Nov. 5, 2002 (ECP online).

370. *Id.* In Docket No. RP02-505-000, 100 FERC ¶ 61,366 (Sept. 27, 2002), FERC made it more difficult for shippers with deteriorating creditworthiness, such as Calpine and Dynegy, to release pipeline capacity by reselling it to a replacement shipper at a discount. Such a practice exposed the pipeline owner to the risk that it might not be able to recover the difference between its original contract price with the releasing shipper and the discounted price paid by the replacement shipper. The FERC decision in this docket allowed the pipeline company to terminate the capacity release contract at the discounted price, unless the replacement shipper either paid the releasing shipper's contract rate or the maximum tariff rate for the pipeline service.

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shippers will raise the price of natural gas to power plant owners and factories that rely on gas as a fuel, squeezing their profits at the end of the transportation chain.

With credit tight and a recession holding energy demand down, many energy companies have cancelled plans to build new power plants. By January 2002, about 18 percent of announced projects had been cancelled, double the attrition rate the prior year.³⁷¹ Calpine has delayed construction of 34 power plants to save cash and strengthen its balance sheet.³⁷² Some utilities have announced that they will go back to building their own plants with a regulated rate of return because merchant power plants no longer have access to capital to build the plants that can serve growing markets.³⁷³ Capital availability aside, states cannot require independent power producers to build plants to meet demand.

In late 2002, leaders of the power industry—both regulators and private companies—joined in an unprecedented joint statement describing the industry’s financial crisis as “more acute than any in modern history.”³⁷⁴ Their announcement coincided with a report issued by Standard & Poor’s ratings service that linked the credit crisis to the poor quality of regulatory oversight of the industry in the 1990s as it rushed into the unregulated world.³⁷⁵ Industry spokesmen counter-charged that the credit rating firms like Moody’s and Standard & Poor’s were destroying the industry with their dim views of its future and suggested that these agencies needed to be investigated.³⁷⁶

Some companies, like MidAmerican Energy, Consolidated Edison, and Southern Company that did not venture far into unregulated markets, are doing fine. Many of the 300 investor-owned utilities that Fitch rating services follows have limited exposure to volatile wholesale markets and will survive the

371. Rebecca Smith, *Power Industry Cuts Plans for New Plants, Posing Risks for Post-Recessionary Period*, WALL ST. J., Jan. 4, 2002, at A3.

372. *California Electricity Still Lacking*, HOUS. CHRON., Mar. 2, 2002, at 1C.

373. *A Power Shift of Sorts: Puget Sound Energy May Build Own Generators to Meet Demand*, SEATTLE POST INTELLIGENCER, Sept. 14, 2002 (ECP online).

374. *Leaders of NARUC, EEI Warn of Historic “Acute Financial Crisis,”* UTILITY SPOTLIGHT, Nov. 18, 2002, available at <http://www.naruc.org/Meetings/annualconv/2002/svanda.davis.pdf>. NARUC is the National Association of Regulatory Commissioners, and EEI is the Edison Electric Institute, a trade association.

375. *Id.*

376. David Ivanovich, *Energy Traders Struggle to Meet Post-Enron Credit Rules*, HOUS. CHRON., June 1, 2002, at 1A. In fact, the procedures of the largest credit rating agencies are being reviewed by the SEC. Rating agencies like Moody’s face the same conflict of interest that auditors face because they are paid by the companies whose creditworthiness they are evaluating. Jonathan D. Glater, *Top Debt Rating Agencies Take a Look at Accounting*, N.Y. TIMES, Jan. 11, 2003, at B1.

current credit crunch intact.³⁷⁷ Many of the power plants being auctioned off by merchant power companies are being bought at bargain rates by old-line utilities. The little town of Garland, Texas bought itself an electric power plant at a bargain price as PG&E National Energy Group restructured its debt to satisfy creditors.³⁷⁸ For merchant generators with poor credit, rising debt, and dwindling revenues from low electric prices, the sale of a newly built power plant for less than it cost is one of the few options remaining to stave off bankruptcy. One industry participant estimated that about 100,000 megawatts of distressed generation assets existed in the United States, enough to power about 100 million homes.³⁷⁹

Meanwhile, public power cooperatives and municipal utilities that refused to march to the beat of the deregulation drums, even in states that opened their markets, are a bright spot on the Standard & Poor's rating lists.³⁸⁰

B. *Energy Restructuring Stalls*

“Small details of market design can turn out to have major effects on market performance.”

FERC's proposal for Standard Market Design, July 2002.³⁸¹

“The devil was in the details.”

Adrian Moore, Reason Foundation, promoting the privatization of water markets, despite Atlanta, Georgia's failed plan.³⁸²

By the end of 2001, seven states had delayed their retail electricity restructuring plans. California was going back to cost-of-service ratemaking and Connecticut was pondering the same. Twenty-five states, typically those which had relatively low-cost power, remained inactive. In Ontario, Canada, in the first six months of deregulating the power market, prices soared 25

377. Ken Silverstein, *Credit Cloud Will Continue to Loom*, UTILIPOINT ISSUE ALERT, Dec. 18, 2002.

378. Richard Abshire, *City to Buy Power Plant*, DALLAS MORNING NEWS, Feb. 6, 2003 (ECP online).

379. *U.S. Power Sector Faces Huge Debt in 2003*, REUTERS, Feb. 12, 2003 (ECP online).

380. *S&P Sees Negative Rating Trend Continuing; Deteriorating Picture*, UTILITY SPOTLIGHT, Aug. 12, 2002 (ECP online).

381. FERC SMD Proposal, *supra* note 326, App. E, at 10.

382. Rick Brooks, *Deals & Deal Makers: A Deal All Wet: Atlanta's Plan for Water Privatization Failed*, WALL ST. J., Jan. 31, 2003, at C4.

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percent by the end of 2002, and the provincial government rolled back the deregulation with a plan to freeze electricity prices at the pre-deregulation rates and issue refunds to consumers.³⁸³ Only Texas, a self-enclosed electricity market unto itself, moved ahead with its Texas Electric Choice program of retail power deregulation—with the eyes of the world on it.³⁸⁴

Meanwhile, in Great Britain, a surplus of electricity following reform of its restructured power industry caused a 30 percent drop in electricity prices, and many generators in that market faced financial ruin. TXU, a Texas utility, had committed large financial resources to investments in the British power market, entering when prices were high. Faced with uncompetitive long-term prices, the parent company cut TXU Europe loose to face bankruptcy on its own and took a \$4.24 billion charge for exiting Europe.³⁸⁵ The British government has rescued British Energy, a privatized nuclear energy generator that supplies one-fifth of the country's power, with a multi-million pound bailout at taxpayers' expense, bringing the company back into public ownership.³⁸⁶ Governments and citizens are finding that the boom and bust cycles that accompany free markets are not to their liking, whether the prices go up or down.

FERC's grand plan for implementing a Standard Market Design that it believes will bring more efficiency, competition, and market monitoring to wholesale electric power markets has been pushed back as FERC studies the problems and addresses criticisms of the plan from stakeholders, especially states with low-cost power. Many states are reluctant to embrace the SMD proposal, fearing, with considerable justification, that FERC's push for Regional Transmission Organizations (RTOs) will shift control of electricity markets from the states to the federal government. Some states have ordered the utilities under their

383. *Ontario Caps Power Rates As Deregulation Unravels*, REUTERS, Nov. 11, 2002 (ECP online).

384. Joseph Kahn & Jeff Gerth, *Collapse May Reshape the Battlefield of Deregulation*, N.Y. TIMES, Dec. 4, 2001, (Business Section) at 1. Most of Texas is unconnected to other states on the electric grid. Its self-enclosed system makes the Texas Public Utility Commission the ultimate regulator at both the retail and wholesale levels, so coordination of retail and wholesale energy restructuring is much easier than in other states that must deal with both FERC and a state PUC. *Id.*

385. *TXU Europe Bondholders Face Considerable Losses*, REUTERS, Nov. 20, 2002 (ECP online). More than \$4 billion of distressed assets have been put up for sale in the UK by American owners desperate to strengthen their balance sheets and cut debt. *Id.*

386. *Fallout—the Near-Collapse of Britain's Nuclear Electricity*, THE ECONOMIST, Sept 14, 2002 (online). The buyout will cost taxpayers several billion pounds if the government assumes liability for decommissioning the nuclear power plants. *Id.*

retail jurisdiction not to join RTOs, or to prove that consumers will benefit before the utility joins.³⁸⁷ Because most utilities cannot transfer assets without state PUC approval, recalcitrant states can effectively block the development of RTOs. At the federal level, some proposals seek to vacate or slow down FERC's SMD effort.³⁸⁸

The entire area of electricity restructuring is rife with state/federal conflicts. A case in point: The board of California's ISO was originally composed of representatives of many generating companies, among other stakeholders. Governor Davis considered the board to be unduly biased toward generators and replaced its members with those of his own choosing. FERC asserts that it has exclusive power to constitute the board, which must be independent of political influence, and issued a direct order to California prohibiting it from appointing the new board. California simply ignored the order.³⁸⁹ For many other reasons, states will be reluctant to embrace RTOs. Most incumbent utilities favor constructing their own generation plants because construction costs add to their rate base and therefore to their profits. Few states require that their vertically integrated utilities purchase their power needs on the wholesale market, so independent generators can be squeezed out of the picture. In addition, after the California meltdown, states are questioning the benefits of independent generators that do not have a duty to serve any load or that may serve customers outside the state.

Compare this picture to that envisioned in 1998, when the road to the ultimate commoditization of electricity at both the wholesale and resale level was rosily portrayed as follows:

The complete commoditization of electricity will . . . require restructuring efforts from the states, for it is at retail that 90 percent of the original commerce in electricity is carried out We estimate that, within five years, all but a handful of states will

387. Lisa G. Dowden, *Whither Restructuring?*, AMERICAN BAR ASS'N, SECTION ON ENV'T, ENERGY & RESOURCES, ABA ANNUAL MEETING at Tab 1 (Washington D.C., Aug. 10, 2002) [hereinafter Dowden, ABA, *Whither Restructuring?*].

388. Robert M. Fillmore, *Federal Legislative Initiatives Related to Energy Trading*, AMERICAN BAR ASS'N, SECTION ON ENV'T, ENERGY & RESOURCES, FALL MEETING (Portland, Ore., Oct. 10, 2002).

389. In addition, a July 2002 decision by the D.C. Circuit Court of Appeals seriously limits FERC's authority to force utilities to join ISOs or RTOs that are truly independent of market participants. See *Atlantic City Electric Co. v. FERC*, 295 F.3d 1 (D.C. Cir. 2002).

have embraced retail access, thereby opening the way for end users to choose their supplier of electricity and the kind of electric service that they want [U]nregulated competitors [will] scramble for market share. Consumers will be offered an array of [choices].³⁹⁰

C. Effect on Energy Policy in General

Less directly, Enronitis has set back other energy goals of the Bush administration. In its National Energy Plan released in May 2001, the California energy crisis was attributed to regulatory and environmental barriers and a fundamental supply/demand imbalance that prevented energy companies from serving the market, leaving consumers at the mercy of price spikes.³⁹¹ Expedited permits and more light-handed regulation of energy projects were recommended. Yet, as many reports have now shown, the crisis was not so much about these barriers as it was about ineffective, light-handed and flawed regulation at both the state and federal level.

Until Enron, both Democrats and Republicans were reaching consensus on the repeal of PUHCA, the Public Utility Holding Act of 1935. PUHCA places large regulatory burdens administered through the SEC on holding companies that own or control companies engaged in electric generation, transmission and distribution or in gas distribution. PUHCA was enacted in 1935 after the collapse of a utility holding company empire controlled by Samuel Insull, one of the early pioneers in the development of the electricity industry. Its collapse, eerily reminiscent of the fall of the Enron empire, exposed a pyramided system of holding companies and affiliates that was almost too complex to understand. PUHCA was enacted to require electric and gas companies to confine their businesses to the operation of a single integrated utility and other reasonably related businesses. PUHCA also sought to protect investors and consumers, who had lost billions of dollars in the Insull collapse, by authorizing the SEC to regulate the financial and corporate transactions of registered holding companies that owned utility subsidiaries in more than one state. Today, this SEC regulation is said to discourage investments in these industries, although it

390. Douglas F. John & Ronald S. Oppenheimer, *The Commoditization of Energy*, 12 NATURAL RES. & ENV'T 251, 254 (1998).

391. NAT'L ENERGY POLICY DEV. GROUP, NAT'L ENERGY POLICY at viii, xii (2001).

appears that the SEC has not been actively enforcing PUHCA.³⁹² Legislative proposals would replace SEC regulation with FERC access to holding companies' books and records. The premise, or promise, of PUHCA repeal is that new participants will enter the energy markets, bringing more competition to these sectors.³⁹³

But, the perils of PUHCA repeal have become more obvious after the Enron debacle. Almost all commentators agree that repeal must be accompanied by expanded FERC merger review,³⁹⁴ but FERC's record in assessing market power is not a good one. One commentator, noting the wave of mergers that occurred in the 1990s with fairly cursory, indeed, "indefensible" standards of review, writes: "[I]n an industry infected with market power in every major asset and service segment, these [past] mergers are biasing markets against competition for years to come."³⁹⁵ His views are echoed by others,³⁹⁶ and are reflected in FERC's own recent adoption of a new test of market power, the Supply Margin Assessment, discussed earlier.³⁹⁷ Yet without an assured process in place today that distinguishes mergers based on efficiency gains from mergers based on gaining strategic market power, PUHCA repeal would seem premature, unless FERC or another agency can promise a better form of regulation as a substitute.³⁹⁸ The SEC argues that since the early 1980s, it has created a comprehensive system of investor protection that negates the need for PUHCA's specialized provisions over utility companies, but its review of Enron's accounting books was virtually nonexistent. And, no one, not even the most diligent of the current FERC Commissioners, can name a date when effective competition in all wholesale markets will exist and

392. See, e.g., *Nat'l Rural Elec. Coop. Ass'n v. SEC*, 276 F.3d 609, 617–18 (D.C. Cir. 2002) (finding that the SEC's determination of compliance with PUHCA "cannot withstand even the most deferential review because the SEC had failed to make any evidentiary findings" and chiding the SEC for amending PUHCA's provisions based on its own views of allowing greater freedom to mergers in the electric utility industry).

393. Warren Buffett has said that he would invest \$10 billion in the energy sector if PUHCA were repealed. Ken Silverstein, *MidAmerican Energy: The Company to Watch*, UTILIPOINT ISSUE ALERT, July 31, 2002.

394. FERC has merger approval authority under section 203 of the Federal Power Act. See 16 U.S.C. § 824b (2000).

395. Scott Hempling, *Prerequisites for Electricity Industry Restructuring: Structural Diversity, Regulatory Preparedness in Whither Restructuring?*, AMERICAN BAR ASS'N, SECTION ON ENV'T, ENERGY & RESOURCES, ABA ANNUAL MEETING at Tab 2 (Washington D.C., Aug. 10, 2002) [hereinafter Hempling, ABA, *Whither Restructuring?*].

396. BRENNAN, PALMER & MARTINEZ, *supra* note 80, at 104–05.

397. See text *supra* accompanying notes 303 to 304.

398. Neither FERC nor the SEC appear to have policed Enron's wind farm acquisitions, which involved both a PUHCA exemption and self-certification as a Qualifying Facility under PURPA. SENATE COMM. ON GOVERNMENTAL AFFAIRS, STAFF INVESTIGATION OF FERC'S OVERSIGHT OF ENRON CORP. 8–19 (Nov. 12, 2002).

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when all markets will be served by RTOs that are “independently governed, efficiently priced, reliably operated, and publicly accountable.”³⁹⁹

The credit crisis in the power sector is now being used by industry, with SEC support, to press for proposals to repeal PUHCA so that new players, like the oil majors or international utilities, will enter the U.S. market. However, PUHCA repeal then threatens to allow utility holding companies to use customer rates to subsidize their unregulated businesses, absent other controls put into place to protect ratepayers.⁴⁰⁰ PUHCA was enacted to prevent parent holding companies from sucking cash out of utility units, but in the deregulatory era of the 1990s, exceptions were granted, and holding companies ventured into new businesses. The Enron debacle has exposed the danger. FERC reached an agreement with the bankrupt Enron Corporation, barring it from raising rates on its regulated, natural gas pipelines in an effort to repay loans totaling a billion dollars obtained from Citicorp and J.P. Morgan Chase only two weeks before declaring bankruptcy.⁴⁰¹ In many cases, understaffed regulatory commissions have belatedly learned that they have little power to prevent holding companies from “milking” their utility units to shore up the parent’s precarious financial condition due to its disastrous forays into other businesses. For example, Westar Energy owned two Kansas utilities and quietly shifted almost \$2 billion of debt onto the utilities, after losing more than one billion dollars in its home security business.⁴⁰²

399. Hempling, ABA, *Whither Restructuring?*, *supra* note 395, at Tab 2.

400. Some states have enacted PUHCA-like laws to regulate holding companies at the state level. In *Alliant Energy Corp. v. Bie*, 277 F.3d 916 (7th Cir. 2002), Alliant argued that Wisconsin’s Utility Holding Company Act violated the Commerce and Equal Protection Clauses of the U.S. Constitution. Alliant wanted to expand its investments in nonutility business ventures, such as real estate, and also wanted an out-of-state company to buy a large stake in its Wisconsin utility. The judge rejected Alliant’s argument, finding instead that Wisconsin had a compelling state interest in controlling the risk of deceptive financing practices and excessive rate charges made to recoup poor financial decisions of the holding company in its other diversified businesses.

401. David Ivanovich, *Pipeline Agrees Not to Raise Rates*, HOUS. CHRON., Nov. 2, 2002, at 2C. Enron used two of its regulated pipeline subsidiaries to secure the one billion dollars in loans and then transferred the money to Enron Corporation’s account in a last-ditch attempt to stave off bankruptcy. Enron failed to keep required records of this “pooled funds” cash management, which is allowed under certain circumstances. FERC has since tightened the rules that allow parent companies to strip cash from publicly regulated subsidiaries. See John R. Wilke, *Enron Investigators Scrutinize Pipeline-Unit Loans for Frauds*, WALL ST. J., Aug. 7, 2002, at A2 (online).

402. Rebecca Smith, *Beleaguered Energy Firms Try to Share Pain with Utility Units*, WALL ST. J., Dec. 26, 2002, at A1. The Kansas Corporation Commission finally detected the inter-company transfers and ordered Westar to separate its utility financials from

The one bit of bright news on this front is that some companies are now openly seeking regulatory approval rather than shifting funds “quietly” between units. For example, Aquila has asked state regulators to allow it to use the company’s regulated assets as collateral for bank loans desperately needed because of the huge losses it suffered in its energy trading affiliate.⁴⁰³ If granted, the risk of deregulated entrepreneurial forays into “innovative” markets will be imposed on ratepayers who did not choose to be part of this business model.

D. *Spreading Regulation and Investigation*

As the extent of Enron’s deceptions are uncovered, new investigations of related industry practices are triggered. When Mariner Energy, a deepwater drilling company and one of Enron’s most valuable remaining assets, was put up for sale, its assets were found to be overstated. Former Enron employees say that the company was used as a “honey pot.” The value of its oil and gas reserves in the ground was easily inflated. If natural gas prices rose, Mariners’ reserve assets rose too. If prices subsequently fell, Mariner simply adjusted the estimated volume of reserves owned to keep the asset value high.⁴⁰⁴

Is it then pure coincidence that the SEC initiated a broad inquiry into how producers account for their proven reserves? In November 2002, producers in the Gulf of Mexico received a letter from the SEC prompting fears that the “corporate accountability push is reaching the Oil Patch.”⁴⁰⁵ Proven reserves are the largest asset that most producers have. Their value must be assessed before booking the reserves in financial statements.

that of its unregulated businesses. Oregon discovered belatedly that Enron, which bought Portland General Electric in 1997, illegally took \$27 million out of the utility, but getting the money back from the bankrupt company will be difficult. *Id.* A whistleblower at Duke brought another example to the attention of state regulators. Expenses from Duke’s unregulated businesses were being shifted to the regulated utility side to reduce the utility’s rate of return. Excess earnings in the regulated business could have led regulators to order refunds to customers and reduce Duke’s regulated rate of return. Neither of Duke’s utilities had been subject to a full regulatory review for more than a decade. Industry experts say that such juggling of expenses often goes undetected by state regulators, and the SEC does not check for expense-shifting either. *Id.*

403. Steve Everly, *Aquila Files to Use Regulated Assets as Collateral in Colorado*, KANSAS CITY STAR, Jan. 15, 2003 (ECP online).

404. Harvey Rice, *Sources Say Assets of Driller Inflated*, HOUS. CHRON., Sept. 22, 2002, at 35A. Misleading estimates of reserves and the prospects of successful drilling economics have long flourished in the industry. For examples, see generally John Burritt McArthur, *Coming of Age: Initiating the Oilfield into Performance Disclosure*, 50 SMU L. REV. 663 (1997).

405. *SEC Inquiry on Oil Reserves is Heads-Up to Industry*, HOUS. CHRON., Nov. 13, 2002, at 1B.

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Under the SEC's 1978 rule, the only way to prove reserves was by an expensive flow test. For deepwater wells in the Gulf, a flow test can cost millions of dollars. New technology allows engineers to assess reserves when estimating a well's potential without actually conducting a flow test. Only about 15 percent of deepwater wells have been flow-tested in the last five years, so there is a large discrepancy between the SEC rule and industry practice. The heightened scrutiny has led some producers to use outside consultants to evaluate their reserves, a development welcomed by Wall Street investors.

E. *The Effect on the National Economy*

When stock prices fall, people lose wealth measured by the diminished value of the stocks they own. This loss prompts them to reduce spending on actual goods and services. Stock market declines also raise the cost of capital to corporate America, thereby reducing investment. Between the spring of 2000 and the summer of 2002, about seven trillion dollars of stock-market wealth vanished—about \$700,000 for each household in America.⁴⁰⁶ A Brookings Institute study estimated that the deep, dark Pandora's Box opened by Enron's collapse has cost our national economy about \$35 billion, or .34 percent of Gross Domestic Product. The report attributes a decline in the value of the dollar to foreign investors' distrust of U.S. capital markets in light of the unremitting series of scandals including Enron, WorldCom, Xerox, Arthur Andersen and others.⁴⁰⁷ Enronitis has spread across the globe.

VII. THE FUTURE

A. *The Future of Energy Trading*

"Trading died with Enron on Dec. 2, 2001."

Mark Williams, energy risk management expert.⁴⁰⁸

"I think we all know the energy merchant model is dead."

Jim Roger, chief executive of Cinergy.⁴⁰⁹

406. John Cassidy, *High Hopes*, THE NEW YORKER, Aug. 5, 2002, at 21.

407. CAROL GRAHAM ET AL., COOKING THE BOOKS: THE COST TO THE ECONOMY (Brookings Inst. Policy Brief No. 106, Aug. 2002).

408. Michael T. Burr, *Energy Markets: Down But Not Out*, PUB. UTIL. FORTNIGHTLY, Jan. 15, 2003, at 19.

409. *US Power Trade Essential But Needs Reform*, REUTERS, Feb. 13, 2003 (ECP

Is energy trading dead? The short answer is no—but it is a very changed business. Power trading volumes in the over-the-counter bilateral market have fallen about 80 percent since their peak.⁴¹⁰ As El Paso, Dynegy, Williams, Mirant, Aquila and others shutter or downsize their trading floors, trading is moving to large financial institutions that have the creditworthiness and financial skills to enter this market. New players like the Bank of America and Louis Dreyfuss have received FERC approval to market electricity.⁴¹¹ UBS Warburg, a unit of a Swiss banking giant, will continue to trade energy in its Connecticut operations, after shutting its Houston doors. These large banks are already heavily regulated, and their knowledge of the needs of their large industrial clients will give them an advantage in entering the power markets. Morgan Stanley Dean Witter and Goldman Sachs have had electricity trading desks for years. These companies will be able to charge a premium for providing liquidity to energy markets based on their high credit quality. Some trading, the speculative kind, will move to hedge funds.⁴¹²

Utilities that have large generating assets will continue to trade any excess power that they do not need for their contractual loads.⁴¹³ Trading will be an adjunct to ownership of physical assets, not a “stand alone” business.⁴¹⁴ The major oil companies like Royal Dutch/Shell, BP and ConocoPhillips have increased their wholesale trading and marketing activities in both gas and electricity by moderate amounts. ChevronTexaco will end its joint venture with Dynegy and open its own 100-person trading desk in Houston to market its own gas and third-party gas.⁴¹⁵ Most of the energy trading companies on the “direct

online).

410. *Id.*; see also, Paul Beckett et al., *How Energy Traders Turned Bonanza into an Epic Bust*, WALL ST. J., Dec. 31, 2002, at A1 (online).

411. Sarah Lunday, *Analysts Approve of Bank of America's Planned Foray into Energy Market*, CHARLOTTE OBSERVER, Oct. 1, 2002 (ECP online). The Office of the Comptroller of the Currency, which oversees banks, had already approved the Bank of America's request to add electricity derivatives to its current trading of crude oil and natural gas derivatives.

412. Citadel Investment Group, a Chicago hedge fund, is expanding its nascent energy trading operation. It hired Vince Kaminski, the former head of Enron's research department.

413. Ken Silverstein, *Banking on Success*, UTILIPOINT ISSUE ALERT, Oct. 8, 2002.

414. For example, Entergy Corp, a large utility company with a relatively small trading business, reported a rise in fourth quarter 2002 profits from its energy-trading joint venture with Koch Industries. *Trading Venture Gives Entergy a Lift*, HOUS. CHRON., Jan. 15, 2003, at 2B.

415. *ChevronTexaco, Dynegy to End Trading-Contract Agreement*, WALL ST. J., Jan 17, 2003 (online).

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hit” list have scaled back their trading activity to deals that involve their own gas and power supplies.⁴¹⁶ CMS Energy, one of the leading round-trippers, sold its gas trading business to Sempra Energy Trading which had a profitable year in 2002, trading physical and financial products in gas, electricity and other commodities, although its trading revenues decreased significantly between 2001 and 2002.⁴¹⁷

Energy trading continues on NYMEX, a regulated, neutral clearinghouse exchange that removes the risk of counterparty default since all trades are backed up by the exchange. Some other trading platforms, like the Intercontinental Exchange (ICE) and TradeSpark which are also clearing-based exchanges, continue to operate profitably,⁴¹⁸ although not without problems of their own. ICE, founded in 2000, is owned by thirteen primary shareholders that include Duke, El Paso Corp., Goldman Sachs Group, Morgan Stanley and BP. The owners had an incentive to boost volumes on the ICE exchange by wash trading and some have admitted to doing so.⁴¹⁹ In a particularly ironic twist, an ICE-sponsored fundraiser for the victims of the 9-11 terrorist attacks on the World Trade Center raised one million dollars from one day’s commissions on ICE trades, but some of the trades between American Electric Power, El Paso and Aquila were wash trades.⁴²⁰

FERC’s Standard Market Design will increase the opportunity to trade electricity profitably using a “seamless” national grid. Industry needs risk management services to protect against volatile prices. With less competition in this market, margins to companies that provide these services will increase. When Mark Williams, quoted above, announced that trading is dead, he qualified the statement by defining trading as speculating on long and short positions. In his view, trading to

416. Michael Davis, *Legal Morass Bogs Down Energy Trader Deals*, HOUS. CHRON., Oct. 20, 2002, at 1D.

417. Bob Bellemare, *Moves Made on the Natural Gas Chess Board*, UTILIPOINT ISSUE ALERT, Jan. 21, 2003. After discovering the round-trip trades, CMS restated its accounts to eliminate \$4.2 billion of previously reported revenues and expenses.

418. ICE anonymously matches buyers and sellers of oil, gas and metals for a fee, using the eBay business model. ICE is subject to CFTC oversight, which EnronOnline was not. Unlike Enron’s role in EnronOnline, ICE takes no position in the marketplace, but simply provides a forum for buyers and sellers to find each other. Peter Edmonston, *Online Commodity-Trading Service Gets a Boost from Enron Shutdown*, WALL ST. J., Feb. 11, 2002 (online).

419. Dennis K. Berman et al., *As the Bubble Nears its End, Bogus Swaps Padded the Books*, WALL ST. J., Dec. 23, 2002, at A1. A shareholders’ suit against El Paso alleges that traders were offered a monthly bonus of \$10,000 for executing the most deals on ICE. Companies could earn equity by pledging to conduct a set volume of trades on ICE.

420. *Id.*

optimize assets and mitigate risk through careful hedging is, and will be, a viable business.⁴²¹ Without speculative trading, however, liquidity and price discovery have decreased, making forecasting and hedging more difficult. At the same time, the electricity market has proven to be much more volatile than other commodity markets because electricity cannot be stored and people cannot live without it.⁴²²

B. *The Future of Energy Restructuring*

The future of energy restructuring is talked about in three main ways:

1. The future of demand-side responses in a deregulated market where consumers can see the price of electricity hour-by-hour or even minute-by-minute.
2. The success of the Texas retail deregulation effort called Texas Electric Choice.
3. The national benefits to consumers of electricity markets.

Each will be briefly discussed for the hope that they bring to the future of electricity markets.

1. The Hope of Demand-Side Response

For many economists, the answer to effective markets in power lies, not so much on the supply side of the equation, but on the demand side. Most consumers see a monthly electric bill, with a fixed rate for the electricity consumed during the past month. The monthly bill has been criticized as a poor price signal for inducing efficient behavior. California was especially faulted for refusing to free retail power prices to respond to the increased costs of power. If retail prices had been freed, much of the “crisis” would have disappeared.⁴²³ People would take individual

421. Michael T. Burr, *Energy Markets: Down But Not Out*, PUB. UTIL. FORTNIGHTLY, Jan. 15, 2003, at 19.

422. In 1999, the average daily volatility of gold, soybean and silver prices ranged between 10 and 20 percent, while the average daily volatility for electricity prices was 400 percent, and for June 2000 was 1300 percent. ROWE, ET AL., *supra* note 73, at 3–5.

423. The Brattle Consulting Group estimated that a 10 percent reduction in peak

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responsibility for conserving electricity, and this price response would decrease price volatility, reduce the need for more generating capacity, and tame the market far more effectively than any government regulation.

Nobel laureate and economist Vernon Smith touted “Power to the People” through demand responsiveness.⁴²⁴ Consumers need to see real-time prices so that households can choose to run a clothes dryer late in the evening when peak power prices have declined. Retail electric competition would bring innovations like real-time pricing meters into the home. Some users would be willing to pay a market-determined premium for firm supplies of non-interruptible power; others would choose to pay a lower price for interruptible service. With price responsiveness, there would be less need for peak plants that sit idle except for a few days a year.⁴²⁵ The entire power system would become more efficient.

Advanced metering to allow demand response became the hope of the future. FERC Chairman Pat Wood viewed “smart meters” and retail demand response as a crucial element of efficient grid use and an effective deterrent to market power.⁴²⁶ McKinsey & Company estimated that dynamic pricing with smart meters would save \$10 to 15 billion annually in electricity costs with over half of the savings from the residential sector.⁴²⁷ In an article written in September 2002, Puget Sound Energy was praised for its notable program of “Personal Energy Management” which offered time-of-use rates for residential customers:

Puget Sound Energy (PSE) in Washington State provides a highly successful example of these policies at work. PSE’s customers all have

demand in California would have reduced wholesale prices by 50 percent. Ken Silverstein, *Demanding Real-Time Pricing*, UTILIPOINT ISSUE ALERT, Nov. 11, 2002. Other studies are summarized in GURCAN GULEN & MICHELLE MICHOT FOSS, *DYNAMIC PRICING IN ELECTRICITY MARKETS* (Inst. for Energy, Law & Enterprise, Univ. of Houston Law Center, draft dated Aug. 12, 2002).

424. Vernon Smith, *Power to the People*, WALL ST. J., Oct. 16, 2002, at A20. In Professor Smith’s view, long-term contracts for power are yet another form of averaging costs over time and are as unresponsive to supply and demand conditions as cost-of-service ratemaking.

425. In the Mid-Atlantic PJM power market, the highest 15 percent of the load on the system was used only two percent of the time, or about 100 hours a year. Chris King & Dan Delurey, *Advanced Metering: Policy-makers Have the Ball*, PUB. UTIL. FORTNIGHTLY, Sept. 15, 2002, at 26. Note: Chris King is chief strategy office for eMeter Corp. and Dan Delurey is the executive director of the Demand Response and Advanced Metering Coalition.

426. *Id.*

427. *Id.* at 27–28.

advanced meters and daily access to their time-differentiated usage and price information. To date, over 300,000 of its customers use voluntary time-of-use rates. These customers have reduced their peak load and lowered their overall energy use—and they are pleased with the program.⁴²⁸

A month later, people were quitting the PSE program in droves and another bold experiment in retail electric markets in the western states ended with customers feeling conned and duped.⁴²⁹ Ninety percent of the customers who had so enthusiastically signed up for a program that Puget Sound advertised as “Shifting your electricity use has a big payoff” had received their first quarterly electric bills in the mail. They were paying about a dollar more than PSE’s regular customers on flat rates.⁴³⁰ One headline from the area tells all: “*Program Leaves Puget Sound Energy Users Feeling Burned.*”⁴³¹ Cynicism and a loss of trust were the program’s major end product. The Puget Sound experience rocked the world of energy markets almost as much as the May 2002 release of the infamous Enron trading scheme memos.⁴³²

In retrospect, even though PSE customers adjusted their life styles, shifted about 5 percent of their demand away from peak hours, and reduced their overall electricity use, the administrative costs of the program were too high and the savings too low to provide any net benefits to the consumer. In general, there is a serious question whether the costs of advanced meters, which consumers will ordinarily be expected to bear in

428. *Id.*

429. Peter Lewis, *Program Leaves Puget Sound Energy Users Feeling Burned*, SEATTLE TIMES, Oct. 24, 2002 (ECP online).

430. *Id.* PSE’s flat rate was 5.6 cents per kilowatt-hour. Time-of-use rates varied from 5 cents to 6.4 cents per kilowatt-hour.

431. *Id.*

432. *See, e.g.*, The Knowledge Problem: Commentary on Economics, Information and Human Action, available at <http://knowledge.problem.blogspot.com> (last visited Nov. 5, 2002) (online discussion of the Puget Sound Energy residential program). Some commentators argue that the time-of-use rates were not good enough—meters have to reflect real-time rates, which expose users to unexpected variations in price at all times during the day. Time-of-use rates vary for different periods during a 24-hour day, but the rates are fixed within each period. E.g., rates are highest in the early evening, say from 5 p.m. to 9 p.m. when people return home from offices (sometimes using subways and electric trains) and start using home appliances; rates are lowest during hours that most people sleep. The question is: How many residential consumers want to expose themselves to unexpected and uncapped price spikes which may occur at any time during the day because of a generating plant failure, an abnormally congested transmission line, or—a trading loophole being legally exploited by market participants?

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markets served by competitive suppliers, will be low enough to benefit small consumers. One-time meter costs can range from \$450 to \$1,500 with installation. Monthly fees for small users range from \$10 to \$300, even with cheaper time-of-use meters versus real-time meters. In short, it may not be cost-effective for the typical household to use dynamic pricing or advanced meters.⁴³³ California's catchy 20/20 program, which gave 20 percent rebates to households and commercial users that used 20 percent less electricity during the crisis than in the previous year, cost the state \$285 million, or about \$200 for every megawatt-hour saved, a steep price compared to the \$35 spot price for electricity in April 2002.⁴³⁴ It may well be that dynamic pricing only makes sense for large industrial users that may adopt it voluntarily in response to the increased volatility of power markets.

2. All Eyes on Texas

With fresh reminders and almost daily revelations of the chaos wrought by California's retail restructuring, Texas opened up its retail electricity market to competition in January 2002. For more than a year now, all eyes have been on Texas, watching to see if this restructuring will bring its promised benefits of lower prices, efficient and reliable service, and customer choice. The current FERC Chair, Pat Wood III, headed the Texas Public Utility Commission (TPUC) while George Bush, Jr. was governor of Texas and the state adopted its restructuring plan. To no small extent, Pat Wood's credibility is on the line in Texas.

At its first year anniversary, many reports were issued assessing the success of the Texas Electric Choice program. Some reports are glowing; others are far more moderate; and some consumer groups continue to consider the program a mistake. The TPUC's own report to the legislature and the public trumpets the message that retail electricity consumers in Texas have saved more than \$1.5 billion in the first year of restructuring—\$900 million in the residential sector and \$645

433. GULEN & FOSS, *supra* note 423, at 2. California is now leading the nation in demand-response capability. California taxpayers paid for 23,342 real-time meters for larger facilities at an average cost of \$1,500 a meter. The expenditures were mandated by laws enacted to encourage conservation. The meters cost \$30 million and are estimated to save up to 600 megawatts. It is not clear that these meters are cost-effective. California's 1995 draft restructuring plan had proposed installing meters in almost every household in the state, but the multi-billion dollar investment was not cost-justified and was abandoned. ROWE ET AL., *supra* note 73, at 5.

434. Carrie Peyton, *California Governor Wants to Offer Incentives for Low Power Usage*, SACRAMENTO BEE, Apr. 5, 2002 (ECP online).

million in the commercial and industrial sectors.⁴³⁵ However, this number is seriously misleading in two major respects. First, it represents a comparison between regulated rates in effect in 2001 and the rates in effect a year later. A goodly chunk of the savings (\$675 million of the \$900 million in residential savings)⁴³⁶ is attributable to decreased prices of fuel, which would have been passed through to customers under traditional cost-of-service ratemaking. Prices of natural gas have risen substantially since the anniversary reports were issued and “savings” attributed to this factor are likely to disappear. Second, the other part of the \$1.5 billion number (\$225 million of the \$900 million in residential savings) is the amount of money saved by consumers due to the statutorily mandated decrease in the price of electricity by the incumbent utilities—hardly an indicator, in and of itself, of the benefits to consumers of deregulated markets.

A more meaningful number may be this one: If all eligible residential customers switched to the lowest cost retail energy provider in the Texas market, these consumers would save \$636 million in their electric bills. This number shows that competitive retail providers can profitably serve the Texas market at rates below the regulated “price to beat,” so their success does not depend on the gerry-rigged regulation of the market that will extend through a transitional phase under the state’s market design.⁴³⁷

The less good news is that relatively few residential customers have chosen a new retail energy provider. Only about 6.5 percent of residential customers have switched to a competitor of the incumbent utilities. (The two major utilities are Reliant and TXU). Most customers who switched have saved only modest amounts between \$6 and \$10 a month. Some have switched to Green Mountain Energy, a retail provider that charges a premium price to customers who want to purchaser electricity which is 100 percent produced from windmills. Savings are less, but these customers are in essence purchasing an environmental preference—a meaningful choice for a certain type of consumer. Industrial and commercial users have been able to save larger amounts in both absolute and relative terms than the residential consumer. More than 9 percent of small commercial and 16 percent of large commercial and industrial

435. PUB. UTIL. COMM’N OF TEXAS, REPORT TO THE 78TH LEGISLATURE ON THE SCOPE OF COMPETITION IN ELECTRIC MARKETS (Dec. 19, 2002), available at <http://www.puc.state.tx.us/electric/projects/25645/25645.cfm> [hereinafter cited as PUCT, 2002 REPORT].

436. *Id.* at 86.

437. The price-to-beat prohibits the incumbent utilities from lowering prices below this level and driving out new entrants.

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customers switched to non-affiliated retail energy providers, so that over 40 percent of all megawatt-hour sales to these customers are by competitive suppliers.⁴³⁸

The path to deregulation has not been smooth. In August 2001 (a very hot month in Texas), electricity prices spiked up to 100 times their normal level in a pilot project that sought to test the markets before full retail competition opened in January 2002. Six companies, including Enron, Reliant, American Electric Power Co., Constellation Power, Mirant and TXU Corp. took advantage of a “quirk” in the market design which allowed companies to overschedule power and then receive congestion payments to remove demand from the grid—a trading scheme well-known in California. Enron scheduled load more than 500,000 percent over the power needed for one zone, and more than one million percent over its actual load in another zone.⁴³⁹ The six companies allegedly received overpayments of nearly \$29 million. Some of the companies argued that the overscheduling was unintentional; however, the percentage magnitude of their forecasting “errors” was so great that the regulators found their explanations hard to believe.⁴⁴⁰ When it became clear that Texas regulators were going to release the names of the companies that had overscheduled, most agreed to refund some of the amounts overcharged.⁴⁴¹ The flaw in the market design protocol has since been fixed, and the incident has been euphemistically attributed to “market start-up problems.”⁴⁴²

Texas customers have also experienced the aftermath of Enron’s collapse. The TPUC proposed a multi-million dollar fine against Enron’s retail energy provider, New Power, for “egregious” billing errors on the bills of 46,000 of its 70,000 Texas customers, made before New Power slid into bankruptcy.⁴⁴³ ERCOT, the coordinator of electricity flows (the equivalent of the

438. PUCT, 2002 REPORT, *supra* note 435, at 91–95.

439. Janet Elliot, *\$7 Million Fine Urged for Enron*, HOUS. CHRON., May 4, 2002, at 1B.

440. R.A. Dyer, *Energy Companies Could Face Fines for Exploiting Quirk in Texas System*, FORT WORTH STAR TELEGRAM, Feb. 28, 2002 (ECP online).

441. The refunds negotiated with regulators total far less than \$29 million. R.A. Dyer, *Texas Public Utility Commission Seeks Huge Fine Against New Power*, FORT WORTH STAR TELEGRAM, Sept. 14, 2002 (ECP online).

442. *Id.*

443. New Power’s customers were switched to the two incumbent utilities’ affiliated retail providers, TXU and Reliant. The chair of the TPUC, Max Yzaguirre was also forced to resign when he belatedly disclosed that he had held leadership positions in eighteen Enron subsidiaries, including New Power, a subsidiary now controlled by his agency. Ken Lay reportedly gave Governor Perry of Texas a \$25,000 campaign contribution the day after the governor appointed Yzaguirre to the commission. Polly Ross Hughes, *PUCL Leader Quits Post Amid Fallout*, HOUS. CHRON., Jan 19, 2002, at 20A.

California ISO), itself was unable to switch many customers properly in the early months. In February 2002, only 50 percent of customers were successfully switched to the new providers they had chosen. In many ways, the small percentage of residential customers seeking to switch was a blessing because ERCOT could not have accommodated a more enthusiastic response to retail choice. Today, more than 92 percent of customers are successfully switched. Nonetheless, the level of consumer complaints about billing and services is far higher under deregulation than it was before deregulation.

The Consumers' Union paints an even bleaker picture of deregulation for the residential consumer in Texas. The largest incumbent utilities like TXU and Reliant still control more than 90 percent of the state's residential market, and are raising their rates (as allowed by law), thus wiping out the promise that these residential consumers would see rate decreases.⁴⁴⁴ (Of course, these rate increases may cause more consumers to switch to lower cost providers, if they have the consumer education skills to access the Power to Choose website and select another provider). In June 2002, shortly after the Enron memos came to light, the chief of market oversight in Texas said that some of the manipulative techniques used in California could also work in Texas. A summary table prepared by ERCOT in early 2003 listed eleven "gaming opportunities" that existed in the Texas market design, with the mitigation measures either enacted or proposed to counteract the schemes.⁴⁴⁵ Six of the eleven opportunities were frequently available to market participants and five gaming problems remained to be addressed by regulators. The Market Oversight Director concluded that there is still too much local market power in Texas. Twelve of the 25 seats on the ERCOT board were held by private power companies and the board's independence and willingness to act quickly have been questioned.⁴⁴⁶ Companies are subject to administrative penalties of only \$5,000 per violation, which the TPUC says is

444. Tim Morstad, *Admit It, Texas, Electricity Deregulation Is a Mistake*, HOUS. CHRON., Dec. 9, 2002 (ECP online); Sudeep Reddy, *Texans Debate Effectiveness of Deregulation As Utility Seeks Rate Hike*, DALLAS MORNING NEWS, Jan. 31, 2003 (ECP online).

445. PUBLIC UTILITY COMM'N OF TEXAS, MARKET OVERSIGHT DIV., MITIGATION MEASURES FOR GAMING OPPORTUNITIES IN ERCOT SUMMARY TABLE (June 18, 2002), available at <http://www.puc.state.tx.us/about/oversight/061802commit.pdf>; see also, Parviz M. Adib, *Competitive Energy Markets and Market Oversight*, presented at Energy Markets at a Crossroads: Has Deregulation Failed?, INT'L ASS'N FOR ENERGY ECONOMICS (Houston, Tex., Dec. 12, 2002).

446. Janet Elliott, *Texas Lawmaker Calls for Power-Trading Disclosure*, HOUS. CHRON., June 19, 2002 (ECP online).

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not enough of a deterrent.

Moreover, the two Texas power giants, TXU in Dallas and Reliant in Houston, are two of the most seriously downgraded companies in the post-Enron creditworthiness ratings scales. These once stable utilities are on the verge of bankruptcy. Texas saw a surge of new generating capacity added to its grid in anticipation of deregulation. This large influx of supply was expected to keep wholesale prices of electricity low for several years, hurting the profits of merchant generators but helping the pocketbooks of users. Older, less efficient Texas plants are being mothballed—also a competitive result. Yet consumers are experiencing rising retail electricity rates (because of rising natural gas prices)⁴⁴⁷ despite the ample generation capacity in the state and are understandably confused by the divergent trends. Also, once reserve margins decrease as demand catches up with supply, how will deregulated prices respond? Virtually any energy market with excess supplies can work fairly well. The tricky part is assuring an adequate supply margin in a competitive market that cannot force generators to build ahead of demand. And as California so aptly demonstrated, price spikes in times of shortages are not likely to be considered “just and reasonable.” Texas has not yet had to face some of the more difficult problems likely to arise in the longer term. Much of the consumer “savings” are likely to disappear from the website’s highly publicized scorecard fairly soon because of higher natural gas prices. This may leave Texas consumers feeling as duped as Puget Sound’s.

In sum, sorting through the hyperbole⁴⁴⁸ on both sides, the consensus seems to be that Texas is doing “OK”—not a resounding success, but certainly not a failure.⁴⁴⁹

447. See text *supra* accompanying note 436. The Texas restructuring statutes allow a twice-a-year adjustment in the incumbent utilities’ price-to-beat if natural gas prices increase, with Texas Public Utility Commission approval. When the two large incumbents raise their rates, competitors can opt to keep their rates stable and attract more customers who now have a greater incentive to switch providers; or raise their rates also, thus earning more profit if they do not lose customers. These competitive choices lie at the very heart of the benefits that restructuring can bring, if done correctly.

448. One of the more hyperbolic reports of the success of restructuring in Texas offered an economic impact of the new generating facilities constructed in Texas in terms of jobs and additions to state income. If this is to be the state’s measure of success, the construction of billion-dollar nuclear power plants under cost-of-service ratemaking would surely win a higher grade than deregulated markets can achieve. See *ELECTRIC COMPETITION: A YEAR IN REVIEW, THE PERRYMAN REPORT 3* (Jan. 2003).

449. Ron H. Moss, *Retail Electric Deregulation in Texas: One Year After Choice*, in *STATE BAR OF TEXAS, OIL, GAS & ENERGY LAW SECTION, GAS AND POWER INST.* at Tab 2 (Houston, Tex., Nov. 14, 2002).

3. All Eyes on Residential Consumers

“To date, . . . no vibrant competitive market for supplying residential customers has developed anywhere.”

John W. Rowe, President and Co-CEO of Exelon Corp., June 2001.⁴⁵⁰

“The Top Ten Lessons from Gas Deregulation Applied to Electricity Deregulation:

Number One: Consumer savings are hard to find.”

Dr. Jeffrey Leitzinger, Econ One Research, December 2002.⁴⁵¹

After California, retail electricity deregulation is a much harder political sell. But even before that state's chaos made headlines for so many months, thoughtful commentators had questioned whether the small consumer would benefit from deregulated energy markets in contrast to large industrial and commercial users.⁴⁵² It is very difficult to allow incumbent utilities to recover their stranded costs and also prevent prices to the consumer from rising, while simultaneously providing enough profit margin for new competitors to enter the markets and erode the monopoly power of the local incumbent. Even for larger users, price volatility is a serious business risk for companies that no longer rely completely on long-term contracts for their energy supplies. Risk management tools may not be adequate to hedge against risk that extends beyond a few years.⁴⁵³

Small wonder, then, that in electricity—with its peculiar

450. ROWE ET AL., *supra* note 73, at 22. All three of the authors are employees of Exelon Corporation, the parent company of Commonwealth Edison Company in Illinois, PECO Energy Company in Pennsylvania, and Exelon Generation.

451. Jeffrey Leitzinger, *Lessons from Gas Deregulation*, presented at Energy Markets at a Crossroads: Has Deregulation Failed?, INT'L ASS'N FOR ENERGY ECONOMICS (Houston, Tex., Dec. 12, 2002).

452. Joseph Fagan, *From Regulation to Deregulation: The Diminishing Role of the Small Consumer within the Natural Gas Industry*, 29 TULSA L. J. 707 (1994) (captive residential consumers will bear most of the stranded costs); Richard Cudahy, *The Choice of Fuel in Competitive Generation*, PUB. UTIL. FORTNIGHTLY, June 15, 1995, at 6–9 (“[T]he real lesson of history is that . . . it is virtually impossible to provide an accurate 20-year forecast. This is one reason a competitive regime faces what I consider unusual difficulties in the electric power industry”).

453. Richard J. Pierce, Jr., *Experiences with Natural Gas Regulation and Competition in the U.S. Federal System: Lesson for Europe*, NATURAL GAS IN THE INTERNAL MARKET 125 (1993) (U.S. natural gas market over relies on the spot market); Michael T. Burr, *Energy Markets: Down But Not Out*, PUB. UTIL. FORTNIGHTLY, Jan. 15, 2003, at 19–21 (hedging risks in the current illiquid energy market is very difficult).

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needs for spare capacity and real-time balancing of the grid minute by minute—the transition to competitive markets will be much more difficult than in other industries. The federal/state jurisdictional issues, stranded costs, inelastic demand for electricity, and the ineffectiveness of antitrust laws and other regulatory reviews to assess and curb monopoly power add enormously to the complexity of the sheer physics of electricity markets. In a widely publicized report, Consumers Union looked at the effects of deregulation in the airlines, trucking, cable TV, banking, telephone, and electricity markets, and scored deregulation in terms of price savings, consumer rights, safety, consumer choice, and innovation.⁴⁵⁴ All industries present a mixed picture, ranging from the woeful \$160 billion government bailout of 1,600 bank failures in the savings-and-loan crisis of the early 1990s, to the success of Southwest Airlines as an efficient, low-cost carrier. Yes—prices have dropped in most of the deregulated industries, but prices were falling before deregulation, often at a faster rate, a fact seldom recognized by proponents of deregulation.

In longer reports, this consumer organization looked more closely at electricity deregulation.⁴⁵⁵ Electricity deregulation in many states, not just California, had been too often accompanied by abuse of market power, excessive scarcity overcharges, inefficient transactions costs of coordinating the complex system, and a sharp increase in the cost of capital, all of which may have swamped any conceivable efficiency gains. Lower electricity prices to date are often due to mandated regulatory price decreases, not to deregulation. In major respects, the Consumer Federation is right: deregulation has produced decidedly mixed results. The question is: Do we move forward in electricity markets, learning from past mistakes, or do we go back to a less complex system that, whatever its inefficiencies, never produced the chaos that now enshrouds the entire industry? The public utility model, for all its faults, generally delivered reliable power and reserve margins at reasonable prices. How can competition and deregulation provide this essential reliability without a high degree of coordination, interrelatedness, and centralized planning?⁴⁵⁶ Even the top utility regulator in Texas sounded like

454. *Deregulated*, CONSUMER REP., July 2002, at 30–35.

455. DR. MARK N. COOPER, CONSUMER FEDERATION OF AMERICA, *ELECTRICITY DEREGULATION AND CONSUMERS: LESSONS FROM A HOT SPRING AND A COOL SUMMER* (Aug. 30, 2001); DR. MARK N. COOPER, CONSUMER FEDERATION OF AMERICA, *ALL PAIN, NO GAIN: RESTRUCTURING AND DEREGULATION IN THE INTERSTATE ELECTRICITY MARKET* (Sept. 2002).

456. For a thorough, and readable analysis of restructuring issues, see BRENNAN,

a central planner the minute that power companies in the state started shutting down plants in the midst of a surplus of generating capacity, saying, “We can’t take for granted these blessed reserves,” so new rules would be needed to protect against future power shortages.⁴⁵⁷ In essence, have markets met their match in electricity?

VIII. CAN ENERGY MARKETS BE TRUSTED?

“Mainstream economics still stumbles because the market’s dazzling benefits half blind it to the defects. On the other hand, many critics perceive the benefits only through the smoke of their burning disapprobation There is not much intellectual interchange on the market system between economists, most of whom admire it, and scholars of history and philosophy who judge its consequences for values like freedom, rationality and morality.

Charles E. Lindblom, *The Market System*, 2001.⁴⁵⁸

“[T]here is no substitute for seeing whether competition does in fact succeed rather than assuming it will not.”

Alfred E. Kahn, 1998.⁴⁵⁹

So, should we plunge forward, as Alfred Kahn suggests, or engage in dialogue first about the morality and rationality of markets? How many of you read the transcripts of the energy

PALMER & MARTINEZ, *supra* note 80. The authors conclude that electricity has such unique technical attributes that it may prove to be an industry in which markets cannot work.

457. R.A. Dyer, *Head of Texas Utility Commission Says State Must Guard Power Surpluses*, FORT WORTH STAR TELEGRAM, Sept. 13, 2002 (ECP online). Industry experts project a surplus of electric power to last until 2005 throughout the United States, due to the overbuilding of power plants in the past few years. Rebecca Smith, *Surplus of Electricity Supplies May Persist at Least Until 2005*, WALL ST. J., Feb. 12, 2003 (online). The ultimate test of electricity markets will be how industry participants, regulators, and consumers react to shortages that may arise after 2005. It is relatively easy to regulate when excess capacity exists—and quite difficult when it disappears, as California discovered. It is still not clear whether FERC’s proposed Standard Market Design or Wholesale Market Platform has provided adequate market incentives and regulatory mandates to assure investment in transmission assets and reserve generating capacity.

458. CHARLES E. LINDBLOM, *THE MARKET SYSTEM: WHAT IT IS, HOW IT WORKS, AND WHAT TO MAKE OF IT* 3 (2001).

459. Vicky A. Bailey, *Reassessing the Role of Regulators of Competitive Energy Markets, or: Walking the Walk of Competition*, 20 ENERGY L.J. 1 (1999) (quoting ALFRED E. KAHN, INST. OF PUB. UTILITIES AND NETWORK INDUST., *LETTING GO: DEREGULATING THE PROCESS OF DEREGULATION* 43 (1998)). Alfred Kahn is the towering economist best known for promoting deregulation of the airline industry, one of the earliest industries opened to greater competition.

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trader's voices captured in this article—giddy with delight at the prospect of gaming the California system—without a sense of outrage at the market ethic embodied in the profit and bonus incentives underlying their decisions? Did no trader contemplate the chaos caused by blackouts—the possibility of serious injuries and deaths from failed traffic lights, elevators or medical equipment? What were the traders thinking as California's dairy and agricultural businesses threw out large quantities of milk and other perishables; as pumping stations for gasoline and jet fuel pipelines shut down, leaving San Francisco airport and motorists in peril; as breweries laid off workers and Silicon Valley businesses paid punitively high prices for electricity rather than close?⁴⁶⁰

Here is the reaction of energy traders when one of their own stars, Timothy Belden, pled guilty to criminal fraud for submitting false information to the California ISO: “What law did he break? Wire fraud—that’s a joke, that’s Mafia stuff.”⁴⁶¹ To many traders, the politics of “megawatt McCarthyism” was unfairly focusing too many government investigations on the merchant energy sector.⁴⁶²

If these voices bother you, then join the great debate that Charles Lindblom posits as his thesis: “[T]here are great unsettled issues about a place for the market system in the future of any society.”⁴⁶³

To Lindblom, an economist, the marvels of the market abound—in its ability to coordinate, induce cooperation, and promote the freedom of individual choice. But its darker side is also all too apparent. In his view, two power elites exist in the

460. Tapan Munroe & Leslie Baroody, *California's Flawed Deregulation—Implications for the State and the Nation*, 26 J. ENERGY & DEV. 159, 167–71 (2001).

461. Mark Golden, *Power Points: Politics Show in Pursuit of Ex-Enron Trader, Special Report on Enron Corporation*, DOW JONES NEWSLETTERS, Oct. 31, 2002, at 10. The traders (who were interviewed at an energy traders' conference) wanted to know specifically what Belden had done wrong, as if giving false information to the California ISO was not enough. The executive director of the Western Power Trading Forum once considered Belden a friend, but now appeared to view him as a traitor. *Id.* A second Enron trader, Jeffrey Richter, subsequently pleaded guilty to manipulating prices during the California energy crisis by submitting false information about energy schedules and emergency backup power to the California ISO. Mary Flood, *Ex-Trader Pleads Guilty to Schemes*, HOUS. CHRON., Feb. 5, 2003 (online).

462. Golden, *supra* note 461, at 10; see also Peter Rosenthal, Outlook Opinion, *Too Much Heat on Energy Trade Costs Consumers*, HOUS. CHRON., Jan. 10, 2003, at 20A (arguing that regulatory agencies are making energy trading hazardous to a company's financial well-being and to traders' personal liberty by arresting traders for reporting false prices. Consumers will end up paying a higher cost as trading volume falls and markets become less liquid).

463. LINDBLOM, *supra* note 458, at 14.

market system: the elected political elite and the managerial elite that control business enterprises. However, between the two, corporations have the upper hand, because they must be induced with incentives to produce and provide jobs and tax revenues to society. The corporate elite have a privileged position of power in the political system, and political leaders will act to provide business with whatever it says it needs to do its job.

In Lindblom's view, the enormous influence of the business elite on legislative policies at all levels of government seriously distorts the democratic nature of our society. Likewise, *The Economist*, a leading advocate for economic liberty and free markets since 1843, issued its special 160th anniversary edition on "Capitalism and Democracy" in June 2003. Pleading for the governments of Western nations to keep their distance from business and its bosses—to be pro-market versus pro-business—*The Economist's* voice continued:

[P]erhaps most fundamental is the . . . fact that close ties between business and government are detrimental to democracy, and to public trust in democratic government. Companies pose a problem for democracy by their very existence, for through their command over resources, persuasive power and many legal privileges . . . they unavoidably carry much more political weight than do individual citizens.

Pushing back the extent of influence is destined to be a never-ending effort, particularly when the influence-taking gets out of hand, as it did in most rich countries (especially America) during the late 1990s.

. . . .

Without that Sisyphean effort, governments will be crushed. And so, eventually, will be the freedoms both of capitalism and democracy.⁴⁶⁴

Lindblom's cautionary thesis about the role of business in pushing for deregulated markets finds considerable support in

464. Editorial, *Pro-Market, Not Pro-Business*, THE ECONOMIST 15–16 (June 28, 2003). See also, U.S. GENERAL ACCOUNTING OFFICE, ENERGY TASK FORCE: PROCESS USED TO DEVELOP THE NATIONAL ENERGY POLICY, Aug. 2003 (national energy policy developed largely in secret by the Bush/Cheney administration with input mostly from the petroleum, coal, nuclear, natural gas, and electricity industries and their lobbyists).

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other studies tracing the reasons behind the great transformation in regulated industries law in the transportation, telecommunications and energy sectors over the last few decades. The original paradigm of regulation charged an administrative agency with strong regulatory oversight of particular industries. The new paradigm views the goals of regulation as the promotion of competition and consumer choice. Once in place, competition and choice will police the markets without much need for a regulatory bureaucracy.⁴⁶⁵ “Light-handed” regulation will suffice. The reasons for this paradigm shift have been found to be two-fold: first, key interest groups, notably large business interests, discovered that deregulation was to their advantage;⁴⁶⁶ and second, economists and other policy elites reached an ideological consensus that the risks of regulatory failure under the original paradigm exceeded the risk of market failure under the new paradigm.⁴⁶⁷ As noted earlier, large industrial and commercial users are the chief recipients of benefits from competition in electricity and natural gas (although these lower prices should ultimately “trickle through” to lower-priced manufactured products for consumers).⁴⁶⁸ Furthermore, there is so much money being spent on political lobbying by every major group within the electricity industry that cynics say Congress has little incentive to resolve energy issues quickly.⁴⁶⁹

As to the ideological consensus, strongly fostered by economists, that markets are superior to regulation, there is little doubt that that this has been a major factor in electricity restructuring. This ideology explains FERC’s long reluctance to intervene in the chaos of California and California’s own embrace of a Power Exchange as the ultimate market of all power markets. The California crisis precipitated an extraordinary round of competing “manifestos” by prominent economists. The

465. Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUM. L. REV. 1323 (1998).

466. Lindblom may have overstated industry’s embrace of deregulation as a general principle. In some cases, such as airlines and trucking, industry had to be dragged into deregulation. See SAM PELTZMAN & CLIFFORD WINSTON (eds.), *DEREGULATION OF NETWORK INDUSTRIES: WHAT’S NEXT?* (2000).

467. See generally Kearney & Merrill, *supra* note 465, at 1323.

468. *Id.* at 1393–97.

469. The Bush administration’s call for a National Energy Plan, released in May 2001, remains mired in Congressional conflicts, even after the Northeast blackout of August 2003 put energy issues high on the priority list of needed legislation. Carl Hulse, *Energy Bill Could Be Stalled Until ‘04, Senate Aide Says*, N.Y. TIMES, OCT. 10, 2003, at A17. Many of the bill’s provisions include large subsidies for energy producers. *Energy Industry to Win Big with Energy Bill*, REUTERS, Oct. 10, 2003 (ECP online) (energy bill’s tax breaks and benefits to oil, gas, coal and power companies could cost taxpayers nearly \$53 billion over the next ten years).

true believers urged officials to resist any form of price cap, while those who recognized the reality of dysfunctional markets, including Alfred Kahn, urged regulatory intervention.⁴⁷⁰ Another manifesto was issued in early 2003, urging California to create commodity market institutions, to implement real-time pricing, and to “rely on markets whenever possible.”⁴⁷¹

But when are markets “possible”? Here are the words of a former FERC Commissioner, inspired by Alfred Kahn’s call to always give deregulation a try, describing her goal of speeding up merger applications in the energy industry to enhance efficiency and competition:

In a concurring statement attached to a recent merger order, I expressed concern that the Commission, in setting a merger application for hearing on its competitive effects, deemed itself unable to assess the adequacy of the applicants’ various commitments to alleviate any potential adverse merger-related effects on competition.⁴⁷²

Admitting that she tended to err on the side of competition versus regulation, she then wrote:

I felt compelled to concur separately in a recent order, . . . in which the utility decided—for no reason other than to avoid immediately reporting price information—to divide up a three-year power sale transaction into three separate, identical one-year power sales I am discouraged to see deals structured in a manner simply to defeat Commission information requirements.⁴⁷³

The primary lesson of California is that this type of light-handed regulation combined with the entrepreneurial, profit-

470. Carolyn Whetzel, *Bush Turns Aside Davis Request for Wholesale Electric Power Relief*, DAILY REP. FOR EXECUTIVES, May 30, 2001, at A-38.

471. The January 2003 manifesto was posted at <http://www.haas.berkeley.edu/news/manifestoo.html>.

472. Vicky A. Bailey, *Reassessing the Role of Regulators of Competitive Energy Markets, or: Walking the Walk of Competition*, 20 ENERGY L. J. 1, 6–7 (2001).

473. *Id.* at 13. FERC’s rationales for departing from cost-based ratemaking since the late 1970s showed a grave inconsistency. Market prices were justified because markets were competitive, and were likewise justified as necessary to attract new entrants into a noncompetitive market. Hempling, ABA, *Whither Restructuring?*, *supra* note 395, at Tab 2.

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maximizing behavior of private participants in electricity markets does not serve the public well.⁴⁷⁴

So, can electricity markets be trusted? Here again is Fukuyama's definition of trust as "the expectation that arises within a community of regular, honest, and cooperative behavior."⁴⁷⁵ I think the easy answer is: no. They cannot be trusted to work without a high degree of government intervention that true believers will continue to find "offensive"⁴⁷⁶ and continue to criticize as retarding the "dazzling benefits" that markets can provide. In this conclusion, I have the company of others:

[T]he process of deregulation is more corruptible than the process of regulation [I]t is absolutely clear that if we are to pursue "deregulation," then we must be willing to regulate deregulation.

Alan Richardson, American Public Power Association President, June 2002.⁴⁷⁷

The curious paradox of a market-based regulatory reform [in electricity] is that we may end up with more rather than less regulation.

Joseph P. Tomain, Dean and Professor of Law, 2002.⁴⁷⁸

And will the government intervention be well-designed even

474. The United Kingdom's efforts to avoid the problems associated with traditional cost-of-service ratemaking in the U.S. through light-handed regulation of the UK natural gas pipeline industry (following the privatization of British Gas) did not result in either greater administrative simplicity or efficient incentives for the privatized utilities. Light-handed regulation allowed companies to exploit the information disadvantage of regulators. Paul Carpenter & Carlos Lapuerta, *A Critique of Light-Handed Regulation: The Case of British Gas*, 19 NW. J. INT'L L. & BUS. 479 (1999).

475. FUKUYAMA, *supra* note 3, at 26.

476. See text *supra* accompanying note 266 (FERC Commissioner Hebert's use of the word "offensive"). See also Curt L. Hebert, *The Quest for an Inventive Utility Regulatory Agenda*, 19 ENERGY L. J. 1 at 21-22 (1998)(proposing a higher rate of return for gas pipelines based on an industry executive's assertion that \$25 billion in new investment would be needed between 1999 and 2010. This former Commissioner's conclusion seems inconsistent with data he presents a page later that pipeline projects totaling more than \$11 billion in investments were then awaiting certificates from FERC under the existing regulations).

477. Richardson: *Corruption, Deregulation Go Hand in Hand*, PUB. POWER WEEKLY, June 17, 2002 (ECP online).

478. Joseph P. Tomain, *2002 Energy Law Symposium: The Past and Future of Electricity Regulation*, 32 ENVTL. L. 435, 474 (2002).

when it incorporates lessons learned from experience? FERC has learned this lesson from its study of market problems in California and the Northeast:

Small details of market design can turn out to have major effects on market performance.

FERC's proposal for Standard Market Design, July 2002.⁴⁷⁹

If the “devil is in the details,” but the details are so difficult to get right because electricity has such unique attributes, then it is time to say that markets have met their match in this arena. In even simpler markets, such as one-time auctions for the telecommunications spectrum, “disastrous” results have occurred because “superficially trivial” distinctions between policy proposals were actually quite important and because the economic consultants’ market design, while sound in theory, could not translate into good policymaking, given real-world political pressures, including lobbying from the regulated industry.⁴⁸⁰

Certainly, electricity markets can and will be designed to avoid the more obvious flaws in California’s noble, but failed, experiment. But, the real question is whether deregulated energy markets will produce a better grade than the C+ that Pat Wood gave to traditional utility regulation. The FERC Chairman is hoping for a grade of B for restructured markets.⁴⁸¹ In my mind, the mid-term grade to date for deregulation is a U for “unsatisfactory.” Residential consumers have for too long been

479. FERC SMD Proposal, *supra* note 326, App. E, at 10. True believers in privatized utility markets often use “the devil was in the details” as justification for nonetheless proceeding with privatization as an ultimate goal, despite its spectacular failure in particular instances. *See, e.g.*, the Reason Foundation’s response to Atlanta, Georgia’s failed water privatization, in Rick Brooks, *A Deal All Wet: Atlanta’s Plan for Water Privatization Failed*, WALL ST. J., Jan. 31, 2003, at C4.

480. PAUL KLEMPERER, USING AND ABUSING ECONOMIC THEORY (Centre for Economic Policy Research, Discussion Paper No. 3813, Mar. 2003), available at <http://www.cepr.org/pubs>, or through the Social Science Research Network at <http://ssrn.com/abstract+400560>. This paper was delivered as the 2002 Alfred Marshall Lecture of the European Economic Association at its Annual Congress. It should be required reading for any economists who excuse their failed policy prescriptions on the basis that politicians or bureaucrats did not do exactly what they prescribed. Klemperer would attribute the policy failures to a “sorry history of ‘expert’ advice” from consultants with narrowly focused theories who lack experience and knowledge of the wider context in which their theories must operate. *Id.* at 2.

481. *Enron Had No Apparent Impact on Markets, Delivery to Consumers, FERC’s Wood Says*, DAILY REP. FOR EXECUTIVES, Jan. 29, 2002, at A-27. (This speech preceded the May 2002 release of the memos detailing Enron’s trading schemes in California).

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wooded with hyperbolic promises of great benefits from electricity deregulation—lower rates, more reliability, and greater choice.⁴⁸² There is little evidence that restructured markets will reduce electricity rates in any meaningful amount for the residential consumer. The poor performance of retail competition hinders the development of wholesale markets by undermining investment incentives for distribution companies and other retail providers to enter into long-term contracts with new investors for generation and transmission service. Without new entrants, incumbents are left with market power that regulators will intervene to suppress when prices rise as supply margins narrow.⁴⁸³ Reliability becomes more precarious as the industry “de-integrates” into competitive rather than coordinated units.⁴⁸⁴ In addition, no one in these new markets—except traders, sometimes—appears to like the volatility that has accompanied deregulation.⁴⁸⁵ The dreadful “Averch-Johnson inefficiency” of regulated utilities does not seem to have been so large that deregulation will capture significant gains that regulators were not already capturing through incentive-based performance standards, mandatory competitive bidding by utilities for new generation supplies, and other mechanisms that were lowering electricity rates before restructuring began.⁴⁸⁶

482. In 1994, Jeff Skilling, then Chief Executive Officer at Enron, told the California Public Utilities Commission that annual savings to California voter-citizens from electricity deregulation would be \$9 billion, an amount that could pay off the interest on the state's debt and fund new teachers and police in all the major cities of the state. *Lawmaker Says Enron Duped California*, UNITED PRESS INT'L, Apr. 11, 2002 (ECP online).

483. Paul L. Joskow, *The Difficult Transition to Competitive Electricity Markets in the U.S.*, draft presented at “Electricity Deregulation: Where to From Here?” Conference (Bush Presidential Center, Texas A&M Univ., Apr. 4, 2003).

484. An interesting empirical analysis of 177 investor-owned electric utilities representing 83 percent of U.S. electricity production shows that the process of deregulation has a negative impact on firms' productive efficiency, although firms that are either vertically integrated into generation or that rely on the market to buy electricity are more efficient than firms with hybrid structures combining the two. See MAGALI DELMAS & YESIM TOKAT, DEREGULATION PROCESS, GOVERNANCE STRUCTURES AND EFFICIENCY: THE U.S. ELECTRICITY UTILITY SECTOR (Univ. of Calif. Energy Inst., WP 004, Mar. 2000), available at <http://www.ucei.org>.

485. Traders aren't so happy when they are “fooled” by prices that move in the “wrong” direction. See, e.g., Laura Goldberg, *Bad Deals Cost Reliant \$80 Million*, HOUS. CHRON., Mar. 8, 2003, at C1. Reliant, Houston's main electricity provider, lost \$80 million in speculative trading at the same time it was working with banks to restructure \$5.9 billion in debt. The CEO of Reliant said the trading loss “resulted from unprecedented market volatility.” *Id.*

486. See text *supra* accompanying notes 454 to 456. For an excellent summary of the slow and difficult path to electricity restructuring to date, see Joskow, *supra* note 483. About four-fifths of the states had authorized some form of incentive regulation which decoupled rates and costs as a kind of “halfway house” to full deregulation before the 1990s rush to restructure. Douglas N. Jones, *Regulatory Concepts, Propositions, and*

With time, the question of whether deregulated markets have brought long-term efficiency gains to the electric sector will be answered through empirical studies. Initial empirical work suggests that investor-owned utilities have reduced their plant staff, operating budgets, and fuel expenditures, suggesting efficiency gains.⁴⁸⁷ Furthermore, plants divested to merchant generators have made small improvements in heat rates.⁴⁸⁸ However, the body of evidence is still far too sparse to render definitive judgments. Will savings in the private sector be offset by the increased number of regulators and market monitors needed in the ISOs, RTOs, PUCs and at FERC, the CFTC and the SEC? Reliant's settlement agreement for withholding power during the California crisis requires that Reliant retain an independent engineering company for two years, and this company will determine whether any outages at Reliant's plants are legitimate.⁴⁸⁹ Paul Joskow has suggested that generators have an established protocol for withdrawing units from operation, with final approval by a senior executive.⁴⁹⁰ Innovations such as "churn alarms" built into the \$100-million dollar software programs that run the market systems, may be able to lower the costs of detecting market manipulations. Still, one must wonder whether the sum total of private and public sector costs will be lower with "deregulation." If the excessive electricity prices paid by California during the year of crisis, and still being paid today and into the future by its citizens under long-term contracts, are considered part of the cost of deregulation, then past and future benefits of both wholesale and retail restructuring nationwide must total in the many billions, simply to provide net benefits above the massive red ink spilled in California.

Increasingly, proponents of continuing deregulation point to innovation rather than price as the benefit that markets will most likely provide. Undoubtedly innovation has created large social benefits in many deregulated markets, such as trucking and telecommunications.⁴⁹¹ And innovation in power markets can

Doctrines: Casualties, Survivors, and Additions, 22 ENERGY L. J. 41, 60 (2001).

487. Catherine Wolfram, *How Might Restructuring Affect the Efficiency of Electricity Generation in the US?*, presented at "Electricity Deregulation: Where To From Here?" Conference (Bush Presidential Center, Texas A&M Univ., Apr. 4, 2003).

488. *Id.*

489. Michael Davis & Stephen Rassenfoss, *Reliant Admits Driving Up Prices, Californians Will Get \$13.8 Million*, HOUS. CHRON., Jan. 31, 2003, at 24A.

490. Paul Joskow, Remarks at "Electricity Deregulation: Where To From Here?" Conference (Bush Presidential Conference Center, Texas A&M Univ., Apr. 4, 2003).

491. See, e.g., Clifford Winston, *U.S. Industry Adjustment to Economic Deregulation*, 12 J. ECON. PERSPECTIVES 89 (1998) (describing many innovations in the deregulated

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be expected to create a literally brighter future, although some of the innovation may well be driven by higher electricity prices, congested transmission lines, and less reliability in electric services—hardly a “bright” selling point if these types of problems are themselves the result of a rocky transition to deregulated markets.⁴⁹² Already, grid problems are spurring the growth of small “distributed” power generation facilities that provide power on site, unconnected to the transmission grid.⁴⁹³ Large commercial and industrial users are innovating in creative ways,⁴⁹⁴ and to the extent that these new technologies and practices lower prices generally, all consumers benefit. Observers worry, however, that the many uncertainties over the course of both federal and state deregulation have caused utilities to curtail investments in new technologies because cost recovery is at risk.⁴⁹⁵ And, at this time, little evidence exists that these innovations are economic for the small consumer paying the monthly electric bill. Nevada regulators are luring consumers into time-of-use rates by guaranteeing that those who sign up

transport sector—rail, trucking, and air travel—that have benefited consumers and lowered prices).

492. Advanced metering of electricity is the most often mentioned innovation to spring from electricity deregulation, followed by new distributed generation technologies. E.g., an Air Force base in Mississippi is building the world’s largest battery: two huge steel tanks will hold four million liters of salt solution; electrolytes will be charged and discharged by 24,000 fuel cells. At night this flow cell battery will take electricity from the grid and store it, discharging it during the day to replace power from an antiquated grid that averaged 25 blackouts a year and often crashed the sophisticated flight simulators used to train pilots. Peter Fairley, *Recharging the Power Grid*, TECHNOLOGY REVIEW: MIT’S MAGAZINE OF INNOVATION, Mar. 2003, at 50, 52. The Alabama Electric Cooperative pumps air underground where it is compressed and stored during the night and then releases and heats the compressed air during the day to run through a turbine generator. Ken Silverstein, *Hot Air*, UTILIPOINT ISSUE ALERT, Apr. 23, 2003.

493. Distributed generation uses small-scale technologies, such as mini-natural gas turbines, placed onsite at the user’s home or place of business, to self-generate electricity, allowing users to escape dependence on the transmission grid (but not on the natural gas market). See AMORY B. LOVINS ET AL., *SMALL IS PROFITABLE* (2002). Distributed generation, or “DG” can also use hydrogen fuel cells. If only intermittent power is needed or if the grid is used as a back-up source, wind or solar power can be classified as a “DG” technology. In the longer term, new superconductive transmission wires may replace existing wires and allow much more electricity to flow over the already built poles, saving the need to build new plants or new transmission lines which are so often opposed by local communities. The Department of Energy is currently subsidizing superconductive wires for a half-mile cable system in Long Island, New York. Ken Silverstein, *Cracking the Bottleneck*, UTILIPOINT ISSUE ALERT, Apr. 30, 2003. And, who knows what nanotechnology might bring?

494. See, e.g., Edwin McDowell, *Cooling the Empire State Building on the Cheap*, N.Y. TIMES, Apr. 17, 2003 (online) (describing energy savings from upgraded monitoring equipment and from using a broker to shop for the cheapest competitive supplier of power).

495. Ken Silverstein, *Cracking the Bottleneck*, UTILIPOINT ISSUE ALERT, Apr. 30, 2003.

will receive a credit if their bills are higher than under traditional flat rates in order to attract participants.⁴⁹⁶ The public is increasingly asked to have faith that, in the long term, electric markets will deliver benefits that are “compellingly supported in theory,”⁴⁹⁷ but which are quite difficult to document in practice. If it takes an act of faith to “sell” the public on restructured markets in electricity, then trust in these markets is essential. Are they worthy of trust?

In an overview of regulatory concepts and doctrines that have either survived or died out with the great transformation in regulated industries law, Professor Douglas Jones has found that “fairness” in both process and outcome still ranks as the central test of sound regulation, trumping efficiency even in this era of pro-market ideology.⁴⁹⁸ An unassailable lesson of California is that people expect electricity prices to be just and reasonable and that government will intervene—sooner or later, for better or for worse—to assure such an outcome. To date, restructuring in all the implementing states is a gerry-rigged, managed system of prices to beat, price caps, must-run orders, market monitors, and regulatory investigations—all designed to assure fairness while still allowing “efficient markets.” Electricity markets are being tried, but they are not trusted. These “managed-market” mechanisms are supposed to be temporary, a transitional phase necessary to allow real competition to gain a firm ground.⁴⁹⁹ But I agree with a long-time observer, practitioner and scholar of energy markets, Judge Richard Cudahy:

[I]t seems this prospect of an electricity regime ‘half slave and half free’ makes it dubious that a market approach can work at all. Orthodox supporters of deregulation would be very skeptical that markets could ever work at all, if they are subject to suspension for what many would perceive as short-term or trivial reasons.⁵⁰⁰

496. John G. Edwards, *Nevada Regulators Revise Rules for Time-of-Use Utility Rate Program*, LAS VEGAS REVIEW J., Apr. 18, 2003 (ECP online). The peak summer time-of-use customer rate will be 15 cents per kilowatt-hour versus the non-peak rate of 7 cents; the flat rate is 8.8 cents. *Id.*

497. BORENSTEIN & BUSHNELL, *supra* note 78, at 2.

498. See Douglass N. Jones, *Regulatory Concepts, Propositions and Doctrines: Casualties, Survivors, Additions*, 22 ENERGY L. J. 41, at 54 (2001).

499. Alfred Kahn has described some of FERC’s proposed behavioral rules as a “substantial increase in regulation” which is “far more pervasive and intrusive than the institution we purport to be disassembling.” See BUSHNELL, *supra* note 71.

500. Richard D. Cudahy, *Electric Deregulation After California: Down But Not Out*, 54 ADMIN. L. REV. 333, 355 (2002).

So, the question is: Can we trust government to intervene and design restructuring rules that allow competition, consumer choice, and fair and reasonable rates to co-exist in a hybrid system that is more regulated (albeit differently regulated) than the traditional utility model? Can market-based rates co-exist with price caps that have become a rather permanent part of the regulatory landscape of deregulation?⁵⁰¹ Can regulators stay one step ahead of market participants who, under a competitive regime, will naturally seek to test loopholes in market protocols to maximize profits—in ways that consumers will consider fundamentally unfair? In competitive electricity markets, participants can exploit legal loopholes or use market power to make millions of dollars in profits in a very short time period.⁵⁰² And there is every reason to expect them to do so; it is the very nature of profit-based, market capitalism.

In Texas, a cold wave hit on February 24 and 25, 2003, and unusually high bids for power resulted in \$17 million in additional power costs to users, due to the “hockey stick” bidding curve that prevails in electricity markets under scarcity conditions. While legal, the Texas Public Utility Commission’s market monitor had not expected that this type of bidding would result in price jumps for certain services that were 45 to 80 times higher than the previous week.⁵⁰³ The Texas Commission has proposed new rules to limit the danger of a repeat of such a spike. Has the Commission got it right? Dynegy Power Marketing, the company with the high bid, says that natural gas curtailments and higher electricity demand caused market-clearing prices. Does anyone really know what the “right price” should have been, or what it should be in the future, to serve as an efficient market signal?⁵⁰⁴ If not, how can this system be efficient? More importantly, how can it be fair—to either the consumer or to Dynegy?

The new restructured Texas electricity markets may not be a worse system than the traditional ratemaking we once had, but it certainly does not appear to be much better—or even much different in terms of regulatory burdens. Yet, it is the best “restructuring” that has been achieved to date in the United

501. See Jones, *supra* note 498, at 49. Price caps are often reviewed every few years in proceedings that do not differ that much from traditional cost-of-service ratemaking. *Id.* at 54.

502. GAO, CONCERTED ACTIONS NEEDED, *supra* note 258, at 48–49.

503. Bill Hensel, Jr., *Price Spikes Not Going Unnoticed*, HOUS. CHRON., Mar. 8, 2003, at 1C.

504. See also Joskow, *supra* note 490.

States.⁵⁰⁵ Perhaps this is Enron's dying gift to its home state and to the energy trading business that it began in Houston, Texas in the 1980s: We have done better than other states, even while the trading industry lies in shambles around us.

IX. CODA: ON TEACHING ENERGY LAW IN HOUSTON

“Enron was synonymous with Houston, and now it is synonymous with shame.”

Houston Chronicle editorial, on the anniversary of Enron's bankruptcy.⁵⁰⁶

For an energy law professor and former energy economist, who has lived in Houston for more than thirty years, writing this article has been a painful experience. Two Houstonians have committed suicide, high-ranking executives at Enron and El Paso respectively, seemingly in despair over what investigations of their companies' activities were disclosing. Their families grieve in ways we cannot fathom. Many Houstonians, especially former employees of Enron, are out of work; the life savings of many others have evaporated in the collapse of this company that everyone once trusted. The office vacancy rate climbs as trading activity moves elsewhere. The city itself discovered that Enron cheated its own hometown to escape a million dollars in local property taxes, claiming that a warehouse on North Shepherd Drive contained items worth only \$500 rather than the \$20 million worth of computers and telecom equipment stored there, like a Potemkin village, for a falsely painted future.⁵⁰⁷

Enron Field, our spectacular new baseball stadium, is now Minute Maid Field—named for the orange juice company that no one even knew was headquartered in a Houston suburb. In every lobby of every major art or music institution in the city, the Ken Lay name appears as a chief donor to the city's vibrant arts scene. The museums and opera and symphony scramble for

505. The Center for the Advancement of Energy Markets (CAEM) keeps a scorecard called the Red Index, rating progress on retail electricity competition in the United States and various countries. Texas is ranked first among the states. See <http://www.caem.org>.

506. Editorial, *Aftermath—Enron's Affairs Remain Tangled, but Houston Recovering*, HOUS. CHRON., Dec. 4, 2002, at 42A.

507. Tom Fowler, *Enron Division to Take Tax Rap*, HOUS. CHRON., Dec. 17, 2002, at 1A. While Enron claimed the warehouse contained virtually nothing for tax purposes, Enron recruiters would visit the warehouse with job candidates to impress them with the company's plans for broadband expansion by showing them the enormous amount of equipment stored there. *Id.*

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funds that once flowed from Enron's sleek, silvery tower. The society column advises Houston's movers and shakers how to behave when meeting the Lays inadvertently in a restaurant. Some of my students still work at Enron, modeling assets for sale or working on documents in bankruptcy. Others are putting in fifteen-hour days of document preparation for lawsuits and regulatory appearances, representing the tangle of energy companies, banks, individuals, and law firms caught in the Enron web. This young city whose very name connotes the energy capital of the world is subdued and edgy.

And I wonder: What lessons in lawyering, ethics, money, and greed might be learned from this long, sad and shameful look at the actions of many, many participants both in the newly restructured energy markets and in the broader financial and securities markets which have been rocked by scandal upon scandal since Enron's bankruptcy? As we have seen, the new gas and electric markets are intricately intertwined with the financial markets for derivatives and futures and with the capital markets, so essential for an industry requiring massive capital investments to fund long-term infrastructure in transmission and generation. Are there parallel lessons to be drawn from Wall Street and Houston about the regulation of markets?

The financial derivatives and electricity markets are alike in two main respects: they are very complicated, and they allow traders to make "a lifetime of wealth" in just a few transactions.⁵⁰⁸ Many knowledgeable observers consider this a dangerous combination that threatens the stability of our national economic well-being, not merely the fortunes of some of the companies involved in the deals.⁵⁰⁹ Some have called anew for ethical conduct by market participants to guard against this danger.⁵¹⁰ Others have called for a return to principle-based rules for our accounting and tax laws which will better honor the spirit and intent of the public interest meant to be served by these laws. As a U.S. Senate committee recently found, the dense thicket of tax and accounting rules allowed Enron's pool of lawyers, bankers and accountants to exercise a remarkable ability "to parse the law to produce a result that was contrary to its spirit."⁵¹¹

508. Daniel Altman, *Contracts So Complex They Imperil the System*, N.Y. TIMES, Feb. 24, 2002, Sec. 3, at 1 (quoting Professor Hu, a law and finance professor).

509. Warren Buffett, *Avoiding a 'Mega-Catastrophe'*, FORTUNE, Mar. 17, 2003, at 82 (derivatives are "weapons of mass destruction" in global financial markets; recent experience in the gas and electric markets shows their great danger).

510. See Altman, *supra* note 508 (quoting Professor Hu).

511. SENATE COMM. ON TAXATION, REPORT OF INVESTIGATION OF ENRON

Similarly, the dense thicket of market protocols in electricity invites the “best and brightest” of energy market participants to find loopholes to exploit on their way to million-dollar bonuses.

To other observers, the key to preventing Enron-type scandals is disclosure.⁵¹² However, what if the transactions are too complex for directors or investors to understand, and too intricate for regulators to monitor? What good is disclosure of something that almost no one can understand? So complex have structured financing transactions become that one expert argues disclosure to investors is necessarily imperfect. The disclosure must either oversimplify the transaction or provide detail beyond the level of even sophisticated investors to understand. In Steven Schwarcz’s view, “complexity forces a rethinking of the long-held disclosure paradigm of securities law.”⁵¹³ Instead, securities law must be revised to eliminate the conflict of interests that can affect management’s business judgment in entering into these transactions.

Enron certainly thought complexity would shield it from liability for manipulating California’s energy markets. Here again are an Enron executive’s notes from a meeting in Portland, Oregon with lawyers in late 2000 to discuss Enron’s role in the California energy crisis: “No one can prove, given the complexity of our portfolio.”⁵¹⁴ In energy markets, industry participants resist broad, but vague rules that ban “anticompetitive conduct”

CORPORATION AND RELATED ENTITIES REGARDING FEDERAL TAX AND COMPENSATION ISSUES, AND POLICY RECOMMENDATIONS 22 (Feb. 2003).

512. See, e.g., Diana B. Henriques, *The Brick Stood Up Before, But Now?*, N.Y. TIMES, Mar. 10, 2002, at Sec. 3, 1 (quoting Ronald Gilson, a Stanford law professor).

513. STEVEN L. SCHWARZ, RETHINKING THE DISCLOSURE PARADIGM IN A WORLD OF COMPLEXITY 1 (Duke Law School Public Law and Legal Theory Research Paper No. 34, Oct. 2002) available at <http://www.law.duke.edu/fac/workingpapers.html>.

514. Richard A. Opiel, Jr., *Despite Doubters, Enron Waited to Stop Its Trades, Senate Is Told*, N.Y. TIMES, May 16, 2002, at A1 (also quoted in text *supra* at note 123). Another example is noteworthy: J.P. Morgan Chase, the large bank that facilitated some of Enron’s deals appears to have disguised loans to Enron by burying the loans in its trading books for commodities or equities derivatives where neither the bank nor the eleven insurance companies that guaranteed the bank’s repayment by Enron could find them or easily understand them, something that the Vice Chairman of the bank felt “queasy about,” but appears nonetheless to have approved. Kurt Eichenwald, *Judge Allows Use of E-Mail as Evidence in Bank Trial*, N.Y. TIMES, Dec. 24, 2002, at C4 (online); Lingling Wei & Colleen Debase, *Enron Trades Were Circular, J.P. Morgan Official Testifies*, WALL ST. J., Dec. 3, 2002 (online). In January 2003, J.P. Morgan announced it would take a \$1.3 billion charge for the fourth quarter largely to settle litigation over its involvement with Enron, including \$400 million that it paid to settle its lawsuit with the insurance companies over the disguised loans, one day before the suit was to go to a jury. Christopher Oster & Randall Smith, *Enron Deals Cost J.P. Morgan; Bank Plans \$1.3 Billion Charge*, WALL ST. J., Jan. 3, 2003, at A1 (online). This bank and others still face class action lawsuits brought by investors alleging the banks participated in Enron’s fraud on investors.

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or “abuse of market power,” and then exploit the legal loopholes in the thicket of protocols that they reverse-engineer and master.

Why do so many actors in the tax, securities, financial, and energy markets find it so easy, ethically and morally, to violate the spirit of laws enacted to protect the public interest? The answer seems simple: Because that’s where the *really* big money is.

Professor Lawrence Friedman, preeminent scholar of the role of lawyers in America’s system of justice, has written: “It is the business of the lawyer to tolerate and master artifice,” for lawyers grow rich from their knowledge of these cancerously intricate fields of law.⁵¹⁵ Political scientists have posited that American society is so litigious because our political institutions reflect a Constitutional mistrust of strong centralized power at the federal level.⁵¹⁶ Without powerful regulatory agencies to protect them or to provide social safety nets, Americans turn to the courts to vindicate their right to be protected from harm and injustice, from discrimination and pollution, from scalding coffee, unsafe cars, unscrupulous sellers, and negligent doctors. “Adversarial legalism” is the “American way of law,” premised on the failure of government regulators to protect its citizens.⁵¹⁷ Business launched a successful counter-offensive in the 1990s, pressing for tort reform and other changes to diminish the “litigation explosion” that threatened business well-being. Congress reacted by making it harder for corporate shareholders to sue accountants. The result: Accounting firms became more

515. LAWRENCE M. FRIEDMAN, *HISTORY OF AMERICAN LAW* 24 (2d ed. 1985). See also Gillian K. Hadfield, *The Price of Law: How the Market for Lawyers Distorts the Justice System*, 98 MICH. L. REV. 951 (2002) (analyzing how the complexity of law and legal reasoning creates a “natural” barrier to entry by limiting the number of entrants with the cognitive aptitude to engage in sophisticated, commercial transactions. This effect of legal complexity, coupled with lawyer’s state-granted monopoly on coercive dispute resolution, creates powerful incentives to charge legal fees above those that would emerge from a competitive market. The legal profession is “propelled by market forces to devote itself disproportionately to the management of the economic relationships of commerce and not the management of just relations among individuals and the state.” *Id.* at 957).

516. Daphne Eviator, *Is Litigation a Blight, or Built In?*, N.Y. TIMES, Nov. 23, 2002, at A21.

517. *Id.* (citing the works of Robert A. Kagan, a political science professor and the author of *ADVERSARIAL LEGALISM: THE AMERICAN WAY OF LIFE* and THOMAS F. BURKE, *LAWYERS, LAWSUITS AND LEGAL RIGHTS: THE BATTLE OVER LITIGATION IN AMERICAN SOCIETY*). Even sophisticated businessmen and wealthy investors do not appear to understand the caveats and disclaimers that appear after the “comforting assurances” in the opinion letters that law firms write for tax shelters promoted by accounting firms. A new round of litigation brought by wealthy Americans against accounting firms and lawyers seems to prove the American way. David Cay Johnston, *Costly Questions Arise on Legal Opinions for Tax Shelters*, N.Y. TIMES, Feb. 9, 2003, at 25.

aggressive in pursuing dubious practices that pleased corporate clients but misled shareholders. Congress removed the right to sue without providing an alternative means of enforcing the law by strengthening the effectiveness of the Securities and Exchange Commission. Class action litigation is now filling the void.

In December 2002, Judge Melinda Harmon of the federal district court in Houston refused to dismiss class action lawsuits brought on behalf of investors against defendant banks, investment houses, and law firms that assisted Enron in structuring its many deals, tax shelters and Special Purpose Entities.⁵¹⁸ In light of Enron's bankruptcy, these entities are the major sources of funds from which injured plaintiffs may be able to recover, should they ultimately prevail. Judge Harmon ruled that the banks and law firms that served as corporate advisors to Enron could be deemed to be substantial participants in a fraud if they constructed transactions with the knowledge that the deals would mislead investors about a company's finances.⁵¹⁹ Some law professors and practicing lawyers have noted that this one decision may accomplish what no amount of regulatory reform has yet achieved: prevent another Enron from happening again.⁵²⁰ Adversarial legalism aimed at lawyers themselves may be the American way to clean up our securities markets.

There is no analogue, however, for suing those experts, consultants, lobbyists and advisors who oversold Californians on

518. *In re Enron Corp. Securities, Derivatives, and ERISA Litigation*, 235 F. Supp.2d 549 (S.D. Tex. 2002).

519. *Id.* at 704–05. The court stated:

Vinson & Elkins was necessarily privy to its client's [Enron's] confidences and intimately involved in and familiar with the creation and structure of its numerous businesses, and thus, as a law firm highly sophisticated in commercial matters, had to know of the alleged ongoing illicit and fraudulent conduct. . . . Vinson & Elkins chose to engage in illegal activity for and with its client in return for lucrative fees. Contrary to the Rules of Professional Conduct, it did not resign and thereby violated its professional principles and ethics. Nevertheless, had Vinson & Elkins remained silent publicly, the attorney/client relationship and the traditional rule of privity for suit against lawyers might protect Vinson & Elkins from liability to nonclients. . . . but the complaint goes into great detail to demonstrate that Vinson & Elkins did not remain silent, but chose not once, but frequently, to make statements to the public about Enron's business and financial situation. . . . Vinson & Elkins was not merely a drafter, but essentially a co-author of the documents it created for public consumption. . . .

Id.

520. Kurt Eichenwald, *A Higher Standard for Corporate Advice*, N.Y. TIMES, Dec. 23, 2002, at A1.

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the dazzling benefits that power markets would bring to its citizens. In electricity markets, it is well to heed the advice of *The Economist*. This respected voice of market-based capitalism surveyed the Enron-related reforms and aftermath and concluded:

Enronitis showed that there is no substitute for constant scrutiny and questioning [by the individual investor . . . [T]he price of the marketplace has to be eternal vigilance.⁵²¹

The same message was delivered on a *Time* magazine cover in a tone more familiar to the Generation X'ers who sit in our classrooms:

So many choices, and no one to trust. In today's world . . . YOU'RE ON YOUR OWN, BABY.⁵²²

FERC recently mailed me a colorful one-page Hotline brochure, inviting me, as an energy professional, to join the energy market's Neighborhood Watch, with FERC as the "cop on the beat."⁵²³ I am invited to help FERC "clean up the neighborhood" by being the "steward of wise and acceptable energy marketplace practices."⁵²⁴ Comforting as it may be to have this cop a mere phone call away, FERC has virtually no jurisdiction over electricity markets in Texas. Now that I have the Power to Choose⁵²⁵ my retail electric provider, I sure hope that some Texas regulators are being eternally vigilant on my behalf. It's awfully hard going it alone.

521. *Investor Self-Protection—Enron a Year On*, THE ECONOMIST, Nov .30, 2002, at 12.

522. TIME, Jan. 28, 2002 (Cover).

523. FERC Hotline Brochure (copy in author's files).

524. *Id.*

525. This is the name of the website that allows Texas consumers to choose a retail electricity provider. See <http://www.powertochoose.org>.