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Bad Checks Make Bad Neighbors[1]

How Regulatory Inaction and Academic Naivete Caused the Largest Financial Fraud in U.S. History"

Remarks to the National Association of Utility Consumer Advocates

Robert McCullough

June 9, 2003

Three years ago, power prices in the Western States Coordination Council exploded upward in the single largest and longest "spike" in the history of the industry. The surge caught everyone off guard. From May 22, 2000 to July 3, 2001, the California Independent System Operator called 125 system emergencies. Then, during the worst hydroelectric season in many years, the crisis suddenly ended.

No one, not even Enron, had predicted the crisis. No one, not even Enron, had predicted its end.[2] A chorus of highly paid advocates have followed the action with a refrain that the crisis was due to a regional shortage, but their arguments have faltered as time has passed on a deficit of evidence and a flood of embarrassing revelations concerning market manipulation.[3]

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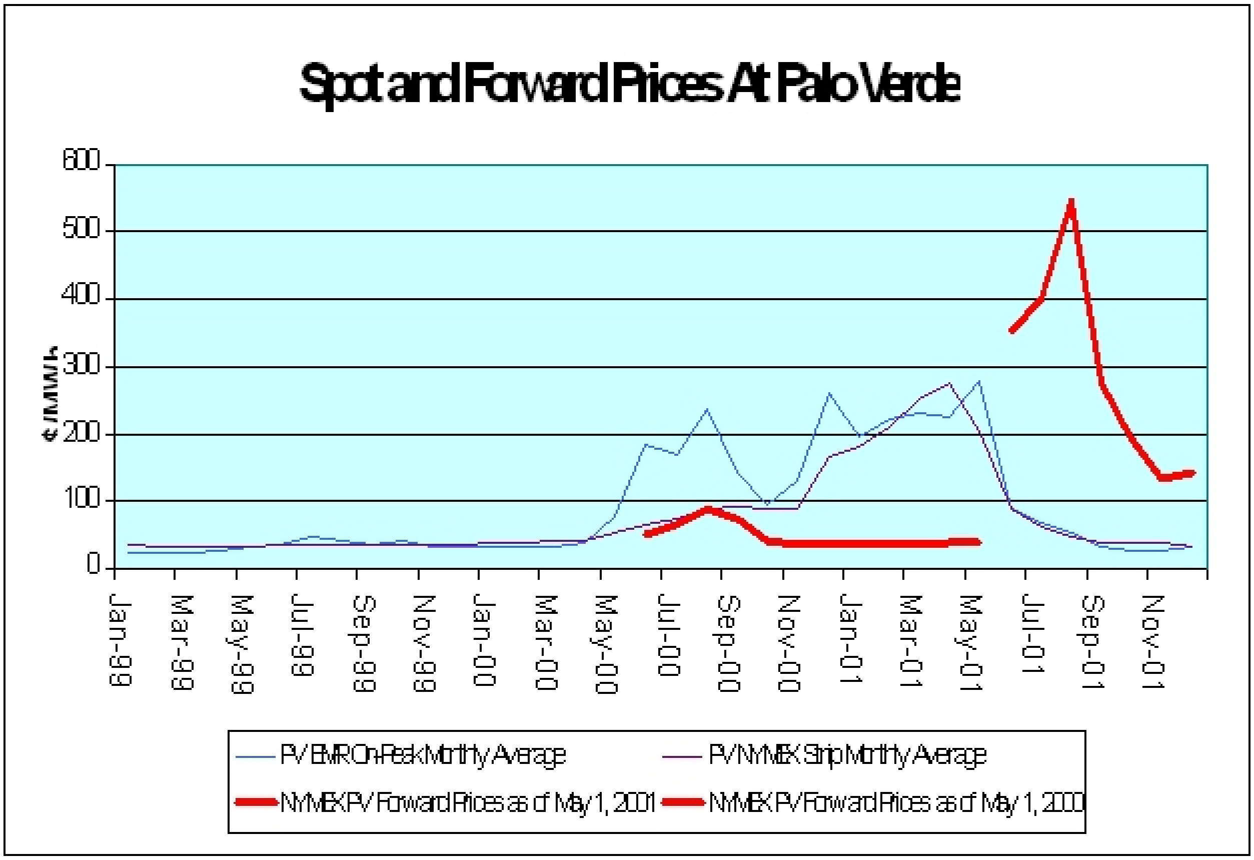
[1]The title of this presentation appears to have been a compromise between two recommended topics "Bad Fences Make Bad Neighbors" and "Bad Checks and Insufficient Balances." Mixing up the two titles seems to be an appropriate comment on California's failed restructuring experiment.

[2]Timothy Belden's presentation to management on the California market in May 2000 did comment on the prevalence of gaming, but made no mention of resource shortages or other problems. He discovered these only after the crisis began.

[3]The last note in this chorus was issued last month when CERA issued – again without evidence – a document entitled "Price Revision in Western Energy Markets: What Standard for Market Intervention?" by David Clement, Bob Ineson, Larry Makovich, and Mike Zenker, Cambridge Energy Research Associates.

The following chart should be on everyone's office wall. It shows the sharp growth of spot prices during the crisis and forward prices for two dates – May 1, 2000 and July 1, 2001. Forward prices the month before the crisis showed no indication of the storm that was about to break. Forward prices the month after the crisis showed no indication that the crisis was about to end.



The natural conclusion that comes from the chart is that the normal tools of forecasters and traders weren't sufficient to deal with the crisis in California. Load resource balances, fuel prices, weather and hydroelectric flows weren't able to give any indication of what was about to unfold.

What was mysterious to us in the summer of 2000 is now common knowledge – market participants had systematically exploited the holes in the system and the lack of regulatory controls to disrupt the market. Billions of dollars have already been returned to the utilities that bore the brunt of the manipulations. Even larger sums are expected to be returned in the future.

While the details of the schemes are fascinating, the more important question is how we suffered such a major defeat of checks and balances at FERC, at the CFTC, the California regulatory agencies, and at the SEC. Absent Enron's adolescent names for the schemes, it isn't clear that we would have caught Enron and their partners at all. Luckily, having criminals who attached catchy names to their crimes like "Fat Boy", "Death Star", "Black Widow", and "Red Congo" made identification of the schemes and the schemers possible.[4]

The best commentary on the schemes and the schemers can be taken from the writings of Christian Yoder, one of the two junior attorneys who drafted the infamous December 6, 2000 memo on Enron's trading strategies.[5]

> Some of what is expressed in the conversation about the incident is consistent with one of my own instincts about the matter, which is that nobody, including the PX Compliance folks, should be surprised to learn that the competitive market forces that everybody seems to agree are very positive are going to be applied directly to the electronic system qua system. Dynamic electronic commerce is going to include a rigorous testing of the very media by which it is conducted. The politicians whose supposed wisdom created this mode of commerce and imposed it upon the California energy market can't expect to channel the enormous brawling competitive energy of a big sector of the American economy into a computer software system and then throw up their hands and interpret certain kind of commercial results from the perspective of the good old days of pre-electronic commerce. Certain kinds of distortions are going to happen in electronic commerce which would not happen in the absence of this mode of conducting business, and these new kinds of distortions are going to warp and twist the system. Presumably those devoted to keeping the system will try to repair it and improve it, but in doing so, they need to proceed very carefully down any path that might lead to pointing an accusing figure at any one particular market participant. Arguably a big finger might be pointed at those that created this market distorting mess in the first place.[6]

Several days later, Christian Yoder continued his soliloquy with:

> Here is a final thought about this PX situation before I take off. In the normal give and take of haggling that has been going on since time out of mind in trading transactions, there is an element of deception. The seller always bluffs that his product is much more valuable than it actually may be, in fact, the less valuable the product, the more the bluffing. The buyer always treats the seller's product with disdain. It is fundamentally necessary for an efficient market to work for buyers and sellers to be able to string each other along with various posturing gambits. Price is the result of two hagglers finally coming forward out of the smoke surrounding their ritual dance and shaking hands on a number. By experimenting with the nuances of the PX software system are traders not merely doing what they have been doing since Biblical times, i.e. interjecting the absolutely essential ingredient of deceptive posturing into the relatively new form of electronic commerce?
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> What is the difference between (a) one of our traders getting on the phone when we are short of power and bargaining for a good price with a supply source as though we have plenty of power and might just be willing to help the supplier out if he gives us a good deal, and (b) scheduling 3000 MW at Silver Peak when there is 15 MW of physical capacity? If the technology of electronic commerce

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[4]Enron has continued to defend their schemes to the bitter end. In the PGE show cause case at FERC, Dr. Richard Tabors was retained this winter to prove that "Death Star" was really a good thing.

[5]Christian Yoder stated before Congress that he was not the author of the memorandum. It isn't clear who was the original author. The first draft, dated October 4 (created) and October 30 (printed) was registered to Stephan Hall. The final draft was toned down and added an analysis of exposure to ISO rules.

[6]Christian Yoder to Tim Belden, June 25, 1999. Tim Belden, Vice President of Western Power Trading, plead guilty to conspiracy to commit wire fraud on October 17, 2002.

> cannot absorb the artful rituals of real haggling, maybe it should be seen as a temporary experiment and rejected in favor of the time honored traditions. In any event, participants should not be expected to be punished for experimenting.[7]

Historical Background

The regulatory structure we have inherited was either designed by Samuel Insull or designed in response to his spectacular collapse at the beginning of the Great Depression. Sam Insull, the grandfatherly figure with the large mustache in the Monopoly game, parlayed his role as Tom Edison's secretary to one of the greatest industrialists in the post-World War I boom.

Insull pioneered most of the innovations that Enron implemented in the 1990s. His maze of interlocking directorates and financing vehicles allowed him to control a huge empire – approximately one third of the electric and gas industry in North America – from a very small base. As an interesting aside, he also owned Portland General Electric and enjoyed the services of Arthur Anderson as an outside accountant.

His collapse in 1933 was the event that spurred the creation of the SEC, FERC, and a number of other regulatory mechanisms. The Public Utilities Holding Company Act, for example, was written by Sam Rayburn to specifically block an Enron-like recurrence of the collapse of the Insull empire.

While Insull pioneered cost plus regulation (he had to invent it twice in his home state since consumers understood the risks of this mechanism and voted it down the first time), restrictions on wholesale transactions and financing mechanisms were invented by Bonbright and Rayburn to avoid a repetition of his predations. Enron, Williams, Dynegy, Mirant, and others enjoyed a lax regulatory environment in the 1990s. The SEC issued a release from PUHCA constraints for Enron's acquisition of PGE. The CFTC exempted electric trading from its rules. FERC, under Curt Hebert, adopted a laissez faire attitude to energy trading, enforcing many rules loosely and some not at all.[8]

Ron Rattey, the senior FERC staffer whose daily newsletter is possibly the most important publication in the energy business, characterized FERC's role in 2000 as:

> FERC has no ongoing and functioning compliance programs, to my knowledge, for any of its most important competition enhancing rules. The Commission appears to have taken the tact (consciously or unconsciously) that industry should police itself. But, as revealed in countless formal and informal complaints, the burden of getting supporting data is horrendous and exceedingly costly (financially and otherwise) to complainants. If FERC staff has no ability to ferret out wrongdoing, except in the most egregious cases and with substantial resources diverted from other work, how can FERC expect market participants to undertake the effort? This latter point is especially troublesome where the complainants know that historically FERC has done little more than slap wrists and say "don't do that

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[7] Christian Yoder to Tim Belden, June 29, 1999.

[8] FERC controls over wholesale trading were nominal at best. As late as spring 2001, Curt Hebert continued to stress that FERC had no powers to confront the California crisis.

again!"[9]

Later in his memo, Rattey goes on to question FERC's philosophy:

> I don't want FERC to return to cost of service regulation only that it really foster and ensure effective competitive markets. I don't think that electric markets are ever going to work very well as long as the players have no faith that some degree of fair play exists. I am concerned about electric markets and frustrated in my efforts to get my higher ups to listen to me or, better yet, hear me. Perhaps the Commission has chosen to let the markets run wild and unrestrained– regardless of the adverse (in my view) short-term, and potentially long-term, consequences– because it believes (a) we should do nothing or (b) we can't do anything. Maybe the Commission is unaware of the market facts or believes them less significant than I do. I have not seen any Commission order to that effect. I believe we/FERC can and should do something. Do you?[10]

FERC's technical abilities during the California crisis were apparently as weak as its commissioners were uncertain. Curiously, Mr. Rattey's prescience has not found him promotion or assignment to FERC's new market monitoring group.

The Road to AB-1890[11]

The central debate in the hearings conducted by the California Public Utilities Commission was the balance between bilateral markets and the need for a centralized market authority. At the time, in our naivete, we were amused by the necessity for the word, "bi-lateral," to describe modern market practice. Professor Bill Hogan of Harvard, now a chief apologist for Enron and its schemes, was the prime advocate for the need to "governmentalize" free markets. In his defense, Dr. Hogan had no knowledge that a broad liquid market in electricity had been in place since the early 1980s. One of his advocates during the debate noted that "markets always need to be established by governments."

The seductive nature of a centralized administered market was that it was transparent and the transparent price could be used to estimate the Competition Transition Cost (CTC.) Enough years have passed that it is necessary to explain the basis of the argument.

In 1980, the Bonneville Power Administration decided to sell its seasonal hydro-electric surplus on the open market.[12] Before 1980, the surplus had always been allocated to interest groups in the Pacific Northwest. BPA Administrator Peter Johnson did not intend to launch a competitive market – his interest was in alleviating the rate increases the Washington Public Power Supply System's nuclear

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[9]Memorandum to FERC Staff, Ron Rattey, June 2, 2000, page 4.

[10]Ibid., page 10.

[11]Senate Bill AB-1890 was signed on September 23, 1996. This law contained the complex framework of "deregulation" in California.

[12]Hydroelectric practice describes seasonal surpluses that may not be available in dry years as "non-firm" because they are not firm on a year to year basis. Firm energy in the Pacific Northwest was (and still is) allocated on a complex set of formulas.

program was causing.[13]

The non-firm market worked extremely well. In 1987 FERC legitimized the market under its Western Systems Power Pool experimental tariff. This was made permanent in 1991. Since the market was characterized by ease of entry and exit, prices reflected the running cost of the highest unit currently operating.

The Bonneville Power Administration also provided the first large scale experiment in retail access by allowing its 3,000 megawatts of industrial customers open access to the market during the drought of 1994. Other utilities in the Pacific Northwest rapidly followed suit.[14]

The primary driver of the debate in California was the clear difference between the $60 to $80 per MWh in California and the $20 tariffs common in the Pacific Northwest. The origin of the restructuring movement in California was a desire by large consumers to gain access to the very competitive bulk power markets.

The primary roadblock was the issue of "stranded costs." These were the costs that utilities had accumulated over time that were greater than alternative supplies in the open market. To avoid the bankruptcy of the utilities, AB-1890 implemented a Competitive Transition Charge (CTC) to be collected from consumers to repay the utilities for past high cost investments.[15]

It was successfully argued that a centralized market was required for a clear price to be generated on each hour. The difference between the price in the "market" and the existing rates would be the contribution each customer would make towards his manumission on March 1, 2002.

Several errors were wired directly into the legislation. First, consumer rates were not allowed to float with the market. Instead, rates were fixed while the customers awaited manumission. Second, the market, the California Power exchange (PX), was joined by a second quasi-governmental entity, the California Independent System Operator (ISO.) Both agencies were governed by a board of stakeholders, far too large to lead, but large enough to provide a political influence on every major decision. Both agencies quickly became dominated by the parties with the greatest amount to lose. During the first half of the California crisis, for example, the ISO was chaired by the representative of the generators, Jan Smutney-Jones.[16]

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[13] WPPSS proposed the construction of five nuclear stations with costs in the $80/MWh range. With BPA rates at $3/MWh, this constituted a massive case of rate shock.

[14] One of the ironies of the California crisis is that the Pacific Northwest had a vastly larger availability of market pricing to end users than California. Market pricing tariffs at PacifiCorp, PGE, and Puget served a majority of the large industrial customers. Public power went further and facilitated direct access for a variety of end-users.

[15] Like a manumission charge for slaves, the consumer could pay back his master's investments and finally be allowed the freedom of the market.

[16] When FERC forced the replacement of the ISO board, Smutney-Jones jokingly "ordered his troops from the control center." In retrospect, this has turned out to be very painful irony.

The first error effectively eliminated retail access in California until the date of manumission. The mechanics were straightforward. Since the consumer must received a discount from the tariff before he would shift suppliers, the vendor had to offer a rate less than the utility rate. The CTC must be collected, so the residual left for the alternate supplier was always less than the prevailing price at the PX. If that was the case, why would any rational supplier bother with a retail customer when they could simply sell directly to the PX. In fact, very few did.

While the first error eliminated the customers from the experiment, the second error was far more costly. The large, ineffective stakeholders boards were a good venue for the exercise of influence, but a terrible form of corporate governance. Both the PX and ISO quickly became bureaucracies with only the very distant supervision of the Federal Energy Regulatory Commission. Actual policies were mysterious, often confidential, and seldom subject to informed debate. The activities of the California ISO in December of 2000 made this brutally apparent.[17]

After the passage of the act a vast implementation process was set up, dominated by the representatives of the generators. The major focus was the construction of an enormous computer infrastructure at the PX and the ISO. While a number of firms were involved in the creation of the infrastructure, several members of the staff of Perotsystems has become notorious for proposing exploitation of market flaws to Enron and others while working for the California PX.[18] The origins of several of Enron's schemes including Silver Peak and Fat Boy can be traced to Paul Gribik and George Backus.[19]

The Cult of Secrecy

From the beginning of the implementation of AB-1890, a theory became universally accepted at the California PX and ISO that the interest of transparency must be served by extensive secrecy. Both agencies adopted ultimately catastrophic rules to keep market information from the public.

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[17]Actually, since the two most important decisions in December 2000 were secret, they are brutally apparent to us today, but were unfathomable at the time.

[18]Two of the most interesting individuals of this period are George Backus and Paul Gribik. On May 8, 1997 Gribik agreed to look for clients that would be interested in gaming the system:

> George:
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> The project definitely is interesting. It should also have good follow-on potential. I think that several areas of the protocols have large potential for gaming. I don't know if we want to try to get the CPUC, FERC, ISO and PX to try to plug the holes. I am afraid that it may be too late. It may be best to help SCE guard against attacks and develop profitable strategies under the existing protocols. I hope that we can get together on this. It should be fun and profitable. I look forward to talking about this. more.
>
> Paul

[19]George Backus fax to Enron's Rich Davis, February 16, 1997 for Silver Peak. History of Reliant's Ellwood and North Path 15 Load Points for Fat Boy.

Their logic was that allowing market information to be distributed to the public would allow competitors to compare notes. Moreover, they accepted the marketer arguments that marketer activities were highly valuable and constituted trade secrets.

Both agencies have taken these arguments to excess on numerous occasions. The California ISO still routinely resists inquiries into its operations on the theory that it would violate its filed tariffs with the Federal Energy Regulatory Commission, even though through the extensive litigations that surround the ISO's operations have made all of the data public to all market participants.

The cult of secrecy was a central cause of the California crisis. We now know that market operations at both the PX and the ISO could not have survived public scrutiny.[20] One of the ironies of the self-imposed information blackout at the California ISO is that the ISO's enforcement personnel did not have access to much of the data that they would have required to detect some of Enron's schemes.[21]

Another element of irony is that the information flowed freely between the competitors. When Coral hired one of Enron's traders, it rapidly learned to practice the same schemes that Enron was conducting.[22]

To this day, it isn't clear to what degree that a lack of political will or the simple absence of information led to the failure to prosecute Enron for the Silver Peak episode of May 25, 1999. Now that we have access to the files of both the ISO and the PX, we know that neither agency ever penetrated deeply into Enron's motivations in the Silver Peak scheme.

Pearl Harbor

Every defeat has a turning point where the course of affairs could have been turn around by a bold move. In 1941, brilliant code breaking in Washington D.C. was never provided to the defenders of the Hawaii islands. If it had, the invaders would have met the defending aircraft in the air and not destroyed them on the ground.

In the summer of 1999, a particularly extreme act should have provided the same advanced notice. If

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[20]The extensive testimony filed by the California parties in the California refund case makes substantial use of market data that showed outlandish bids and extensive withholding.

[21]Analysis of Trading and Scheduling Strategies Described in Enron Memos, Eric Hildebrandt, October 4, 2002, page 11 contains the following note:

> Note: Includes all import/export combinations by the same SC (matched by MW amount) that earned net congestion revenues from counterflows on interties and internal ISO paths. The ISO does not have sufficient information to determine if these schedules represent actual physical sources and sinks that mitigated congestion, or are the type of "circular" schedule with not physical source and sink, such as the Death Star scheme described in the Enron memos.

[22]Coral provided a document entitled "term strategies" that largely duplicated the schemes in the Yoder/Hall memos in its PA2-02-000 affidavit to FERC on May 23, 2002.

enforcement had been energetic and the news of the scheme provided to the public and FERC, it is very possible that the California crisis would never have occurred.

On May 25, 1999, Tim Belden, Enron's chief trader in the west, filed 2,900 megawatts of offers in the PX over a transmission line that was only able to carry 17 megawatts. The ISO called at 7:29 A.M. to verify whether this impossible schedule was in error. The conversation went:

> TIM : Um, there's a -- there -- we. just, um -- we did it because we wanted to do it. And I don't -- I don't mean to be coy.
> KAREN: 'Cause, I mean, it's -- it's -- it's a -- I mean --
> TIM: It's probably --
> KAREN; -- it's a pretty interesting schedule.
> TIM : It -- it's how we -- it makes the eyes pop, doesn't it?
> KAREN: Um, yeah. I'll probably have to turn it in 'cause it's so odd.
> TIM : Right.[23]

The ISO did not pursue the matter. The PX did pursue the matter, finding that the scheme raised prices 71% on May 25th. After an extensive conversation with Enron, the PX enacted a settlement with a promise not to substantially repeat the episode and requiring Enron to pay $25,000 as part of the costs. We now know that John Forney, an Enron trader arrested last week, was working on variants of these schemes at the same time the settlement was signed.[24]

Why was Enron released with such a nominal hand slap? The answer was equal parts politics, embarrassment, and secrecy. Enron was ably represented with representation on the boards of both agencies. Internal PX documents indicate that they were unsure whether they even had the power to enforce their rules. Even if they hadn't the powers to enforce their rules, they could have asked FERC to address the problem.

Both agencies were effectively acting in a leadership vacuum. Admission that Enron could easily manipulate the market would have embarrassed both agencies.[25]

Finally, the entire affair was secret. At the very end the PX issued a cryptic note stating that Enron had faced review. All in all, the discussion of Silver Peak in the trader's own newsletter was vastly more detailed than the coverage by either the ISO or the PX.[26] Details of the manipulation were not provided

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[23]ISO Transcript of ISO/Enron call on May 24, 1999.

[24]Silver Peak Submittal of an Offer of Settlement to Avoid an Investigation, April 27, 2000.

[25]Market Surveillance Director's Report, Anjali Sheffrin, June 7, 1999 includes the following bullet:

- Undesirable Impact on Credibility of California Market Design :
  - Decentralized unit commitment depends on proper price discovery
  - Adjustment bids meant for small adjustments requiring no unit commitment change
  - Deliberate congestion impairs proper functioning of the ISO and PX markets

[26]WPTF Thin Quality Burrito, June 24, 1999, page 2.

to either civil authorities – FERC or the CPUC – or criminal authorities.

Silver Peak proved costly – far more than the $10,000,000 that Tim Belden reserved to pay for the incident or the $25,000 they were fined – since it indicated to all market participants that little enforcement was likely to take place.[27] We know that Enron responded by developing a portfolio of similar schemes for use in the following summer.

Academic Naivete

From the beginning, the California restructuring experiment brought out very simplistic analyses from the academic community. Once the crisis began, academics opposed the institution of price controls for fear that they would create shortages.

Traditional economic theory argues persuasively that price controls will lead to shortages. In Bill Hogan's testimony to Congress in June of 2001 he said:

> Uniform price caps would be counterproductive for all the usual reasons. As for traditional cost-of-service regulation being reimposed on the system, this might lower the average price paid by customers, but it is far from clear how this kind of administrative process could either facilitate the market or be implemented in such a way that would not exacerbate the immediate problems in the west.[28]

Of course, Professor Hogan also said that "[i]t is likely that the problems of high prices and rolling blackouts in the west will be with us again this summer."[29]

As it happens, Professor Hogan was wrong on both points – price caps were the answer and rolling blackouts did not reappear.

The problem is one well understood in mainstream economics where it is known as the Theory of the Second Best. The theory states a simple rule. If the market is not competitive, adopting measures designed for competitive markets may not help. In point of fact, the Theory of the Second Best states that adopting such measures might actually add to the problems.

In the California crisis, the problem was withholding. Since market participants knew that withholding could elicit emergency declarations by the ISO, they operated at low levels.[30] Emergency declarations at the ISO and the concomitant emergency purchases at emergency prices were very profitable.

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[27]Schedule C Summary, March 14, 2000.

[28]Statement of Professor William W. Hogan Before the Committee on Governmental Affairs United States Senate, June 13, 2001, page 3.

[29]Ibid. Page 1.

[30]Over the course of the crisis, the major generators in California averaged only a little above 50% operation.

The correct solution was to limit the ability of the California ISO to pay emergency prices. As it happens, once these measures were adopted by FERC, the emergency ended and prices returned to traditional competitive levels. Generation also increased after FERC adopted region wide price controls.

Not all economists took the part of the marketers. A panel of economists, including the prestigious Alfred Kahn, addressed a letter to the White House on May 25, 2001 with more realistic recommendations.

> We strongly advocate that FERC be directed to fulfill its responsibilities and take the actions necessary to alleviate the market-performance problems that have led to unreasonable prices. We are mindful of the potential dangers of applying a simple price cap, the maximum price that all sellers can receive, to a truly competitive market where the interplay of supply and demand happens to yield prices higher than some might like. But California's electricity markets are not characterized by effective competition. In this case, cost-of-service prices are an obvious remedy that satisfies the just and reasonable rate standard.[31]

Bureaucratic Failure

One of the major flaws of AB-1890 was the creation of an unworkable governance for the ISO and the PX. Board meetings during the period were astonishingly courtly. It was not unusual for board members to refer to each other as "Governor Smutny-Jones," for example.

Actual determinations were ineffective and the critical decisions were often made in secret – secret from the customers, form the citizens, and even from the ineffective stakeholder boards.

In December of 2000, the management of the California ISO made two disastrously bad decisions. Both were made in secret. The interests of consumers would have benefitted from open discussion and review. The interests of the marketers were well served by both the decisions and their secrecy.

First, on December 8, 2000, the ISO management secretly filed an emergency motion with the Federal Energy Regulatory Commission to remove price caps.[32] The decision was exactly the wrong decision since it increased the rewards to the marketers for taking steps that forced the ISO into system emergencies. By January, the ISO was declaring emergencies on a daily level.

Second, at the end of December, the California ISO implemented a secret Capacity Benefit Margin restriction on prescheduled exports from California to the Pacific Northwest at the end of 2000.[33] The CBM policy was designed to artificially congest northbound lines on both interties to the pacific

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[31]Letter to President George Bush from Alfred Kahn et al, May 25, 2001, page 2.

[32]Probing the 'palace coup' Electricity: A panel focuses on price hikes and the actions of the ISO president. Kimberly Kindy, The Orange County Register, September 26, 200.

[33]See "C66 and the Artificial Congestion of California Transmission in January 2001", Robert McCullough, November 29, 2002. These issues have been extensively addressed in hearings at the California Senate Select Committee to Investigate Price Manipulation of the Wholesale Energy Market on January 21, 2003 and February 5, 2003.

Northwest, some ties to the Desert Southwest and northbound schedules on Path 15 between northern and southern California. The ISO felt that this would stop energy from "leaking" out of California. As far as we have been able to determine, only Enron was briefed on the artificial congestion.[34]

The kindest interpretation is that the ISO's management was inexperienced and facing unbelievable levels of stress. Alternative interpretations are also possible. Enron's outside attorney, Gary Fergus, included the following legal advice to Enron's Richard Sanders on December 20, 2000:

> Tim Belden has been approached by the current Chief Operating officer of the ISO requesting a job. Apparently the COO and the current ISO board are not getting along. The issue raised by Tim to Mark Haedicke and Richard was whether they saw a problem with this hire. One of the key issues would be what was the business purpose for the hire. Obviously, Enron does not want confidential ISO information from this person. Also, if this person will be a witness in the litigation there is a risk that if his testimony would be favorable to Enron it would be viewed as purchased. On the other hand if his testimony would not be favorable at a time when he was employed by Enron that could be harmful. There is also the question raised whether this is a bona fide request for employment or whether other motives could be in play. Tim will be meeting with the COO on Friday. He has instructions to make sure that he is not given any confidential data and that no commitment will be made then without consulting the litigation team.[35]

All three of these events reflect a critical failure of governance at the California ISO during the height of the crisis. Clearly, the activities of the ISO during the crisis would have benefitted from open discussion. Instead, the ISO made mistake after mistake – even leaving aside the questionable ethics of having the second in command of the ISO applying for employment at Enron during this period.

Measuring Failure

Interestingly, no one has attempted to measure the success or failure of the centralized administered markets.

Is it too late to do so? The old adage "measure twice and cut once" is clearly the answer,

If centralized markets are the answer, we should be able to see whether they preform better than "bi-lateral" markets elsewhere.

First, are availability factors higher for plants in centralized administered markets than they are in traditional regulated utilities? True competition would have availability factors approximate those in industry for comparable equipment – 90% or higher. The low availability rates of marketer owned equipment during the California crisis compared to equipment of the same age, technology, and fuel use indicates that administered markets may face serious operating problems.

Second, are reserve ratios that were sufficient for regulated utilities higher or lower than those required

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[34] Email to Sean Crandall from Alan Comnes, April 3, 2001.

[35] Email from Gary Fergus to Richard Sanders et al, December 20, 2000.

by centralized markets? Professor Hogan believes that the West Coast of the U.S. and Canada were short of resources during the crisis even though the reserve margins were relatively high. He hasn't addressed whether he believes that additional resources are required in his centralized markets.

Finally, how closely do the administered markets approximate the competitive solutions observed over the last twenty years in the Pacific Northwest? Before California's disastrous experiment with centralized markets, prices and plant operations were closely aligned. When prices increased, it was easy to observe the dispatch of units consistent with the new prices. Three years after the onset of the California crisis, no one yet has attempted to verify that the prices reflected efficient plant operations. Our preliminary work has indicated that the deviation between prices and plant dispatch was in the thousands of megawatts.[36]

Christian Yoder's Final Word

After all of the controversy, few changes have been made in California. And evidence exists that the problems in California also are present in the administered markets in Texas and New England. As Enron's failures became more and more inescapable, Christian Yoder wrote:

> Much truth in this rapier thrust of humor. As I continue to reflect on events, rumors and speculations, it strikes me that the Enron story seems to be unfolding as a story that is all about a kind of Rogue upper management thing. The traditional fear of rogue trading, where a trader has control of the back office and spins off into a series of trades, each one designed to offset a previous bad one until the whole house of cards tumbles down, this prototypical risk was carefully managed at Enron. We actually have a very high quality trading business with good legal, accounting and settlement processes in place. What we didn't have covered was a king of rogue financial sorcery thing by the very top executives. Rogue balance sheet shenanigans seems to be the problem. It is a kind of corruption that is difficult to isolate and purge ourselves of. Instead of isolating a single bad guy and firing him and then telling everybody all is well, this kind of corruption seems to call for a revolution from below, or, as seems increasingly likely, a takeover from without.[37]

Christian Yoder's final line has the authority of someone who was very close to the problem – "this kind of corruption seems to call for a revolution from below, or, as seems increasingly likely, a takeover from without."

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[36]Prepared Direct Testimony of Robert McCullough on Behalf of the City of Tacoma, Washington and The Port of Seattle, Washington. Robert McCullough, Docket EL01-10-005, March 2, 2003.

[37]Christian Yoder to Elizabeth Sager, November 7, 2001.