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To: McCullough Research Clients
From: Robert McCullough
Subject: CERA Decision Brief

Several days ago, CERA (Cambridge Energy Research Institute) published a document critical of the FERC Staff Final Report, entitled “Price Revision in Western Energy Markets: What Standard for Market Intervention?”^{1,2} While the CERA document describes itself to be a “review of the methodology used to undergird the study’s analysis” much of the factual citations in the report appear to be a recapitulation of already discredited assertions in advocacy funded documents produced by Timothy Belden, Joseph Kalt, William Hogan, Scott Harvey, and Susan Pope.³ The conclusions of the study are primarily an argument against using FERC’s just and reasonable standard in the review of long term contracts.

The first part of the CERA study argues that the FERC staff study “does not separate out the effects on price from “legitimate scarcity” (found when shortage conditions exist in demand and supply),

¹Final Report on Price Manipulation in Western Markets Fact-finding Investigation of Potential Manipulation of Electric and Natural Gas Prices Docket No. PA02-2-000, Staff of the Federal Energy Regulatory Commission, March 2003.

²Price Revision in Western Energy Markets: What Standard for Market Intervention?, David Clement, Bob Ineson, Larry Makovich, and Mike Zenker, Cambridge Energy Research Associates

³Enron North America: Western Power Markets Presentation, Tim Belden May 3-4, 2000, Rebuttal testimonies of Joseph Kalt and Hogan/Harvey in FERC Docket No. EL02-26, and California Electricity Price Spikes: An Update on the Facts, Susan Pope.

“abnormal” events (such as a pipeline explosion), and attempted price manipulation.”⁴

The central problem with this argument, as well as its advocacy funded predecessors, is that scarcity is a precisely defined term in electric operations. Given the impossibility of storing electricity, the condition when supply (capacity in electric planning terms) falls below demand (peak demand) constitutes a Stage 3 Emergency. A Stage 3 Emergency occurs when an interruption of firm load is imminent or in progress.⁵ Scarcity is not a matter of interpretation among advocates, it has a precise meaning in the electric industry. A legitimate scarcity, the phrase used by the CERA Decision Brief’s authors, did not take place in either California or the West Coast in 2000 and 2001.

On November 9, 1965 a transmission line failed at 5:15 P.M. The resulting impacts caused a cascade of blackouts from New York City to eastern Ontario. Thirty million people were left without electricity for as long as thirteen hours. In response, the North American Electric Reliability Council (NERC) was formed in June 1968. NERC’s mission is to “ensure that the bulk electric system in North America is reliable, adequate and secure.”⁶ NERC’s committee is comprised of ten regional reliability councils. The council tasked with electric reliability in the western U.S. and Canada is called the Western Electricity Coordinating Council (WECC).⁷

NERC and the WECC conduct a highly structured planning and operations process to ensure that a massive cascade of failures like those in 1966 never reoccur. The question of scarcity – whether there is insufficient capacity to meet peak demand is addressed in an annual report called the “10 Year Coordinated Plan Summary.” Each Summary gives a detailed historical breakdown of events in the region and subregion for the previous year as well as a forecast for the following decade.

The 10-Year Coordinated Plan Summary for 2001-2010 includes the historical data for the entire WECC on page 26.⁸ The historical detail for California and Northern Mexico is on page 48. As these are the authoritative historical data for the region and the area where the California crisis took place, it is important to first check whether a condition of scarcity actually took place. The lowest reserve margin (ratio of available resources over load) in the WECC took place in August with 17,365 megawatts (MW) available over requirements. The lowest reserve margin in California and Northern Mexico took place in June with 5,312 megawatts (MW) available over requirements. The corresponding data for 2001 is a WECC margin of 15,861 MW and a California and Northern

⁴CERA Decision Brief, page 1.

⁵Appendix 9B – Energy Emergency Alerts, North American Reliability Council, page A9B-5.

⁶<http://www.nerc.com/about>.

⁷The WSCC was renamed in 2002. Before then it was named the Western Systems Coordinating Council (WSCC).

⁸10-Year Coordinated Plan Summary 2001-2010, WSCC, August 2001.

Mexico margin of 3,391 MW, both in May.⁹ The WECC never approached its planning minimum reserve margin during the California crisis. California’s reserves only fell below its planned minimum level in one month.¹⁰

In all cases, the WECC historical summaries are created on the basis of actual available capacity minus loads and outages.¹¹ In 2000, California and Northern Mexico had 17,518 MW of transmission capacity available for import of power from neighboring subregions like the Desert Southwest and the Pacific Northwest.^{12,13}

Timothy Belden questioned whether the WECC tabulations were correct.¹⁴ This is a valid concern. While the reliability procedures have been in place for over thirty years, the California crisis was the first time that the system had been severely tested. A logical procedure would be to test whether system emergencies took place during a year when the WSCC tabulations showed even leaner margins. The year 1994 is a logical choice since this year saw a major drought (in 2000 flows were roughly average) and a major transmission outage (the DC intertie was offline due to a major earthquake at its southern terminus.)¹⁵

Again, the appropriate starting point is the WSCC actual data for 1994. In June 1994, the reserve margin throughout the WECC fell to 17,120 MW.¹⁶ California reserves fell to 4,773 MW also in

⁹10-Year Coordinated Plan Summary 2002-2011, WSCC, September 2002, pages 27 and 49.

¹⁰A more detailed analysis of loads, resources, and margins is explained later in this memorandum. It should be noted that operating reserves – the reserves used for day to day operations – are almost always lower than planned reserves. Planned minimum reserves are higher to allow a substantial margin in case forced outages occur. In day to day operations, forced outages frequently remove resources and transmission from the system, With the exception of one month, California’s actual, operating reserves were higher than its planned minimum.

¹¹Some advocates have become confused on this point. WSCC policy has been to use actual capacity, not nameplate capacity. See Western Systems Coordinating Council Criteria for Uniform Reporting Of Generator Ratings, June 20, 1974.

¹²10-Year Coordinated Plan Summary 2000-2009, WSCC, October 2000, page 54.

¹³Actual use of transmission was vastly less than capacity – in August of 2000, for example, firm imports only constituted 7,978 MW. 10-Year Coordinated Plan Summary 2001-2010, page 48.

¹⁴Interestingly, Timothy Belden, the creator of the “two to four year” shortage theory, conducted a significantly better analysis than those who have followed in his footsteps. He understood the contradiction between his predictions and the WECC reports. More recent efforts to rehabilitate the shortage theory have simply ignored the inconvenient facts.

¹⁵Columbia River January-July Runoff was 71% in 1994 versus 92% in 2000, Clearing Up, January 9, 1995, page 4 and Clearing Up, January 22, 2001, page 5.

¹⁶Western Systems Coordinating Council 1995 Loads and Resources Report, April 1995, page 8.

June.¹⁷ Conditions in California in 1994 were worse than 2000 (although better than 2001.) WECC conditions were worse in 1994 than 2000 but better than in 2001. No interruptions of firm load took place in 1994. The logical inference is that WECC procedures and calculations are appropriate and dependable. If Belden’s assertions had been correct, flaws in WECC procedures would not have protected California and the WECC from emergencies and blackouts in 1994. This wasn’t the case.

Where is the scarcity cited twenty-seven times in the CERA Decision Brief? In defense of the authors of the CERA report, the California ISO declared Stage 3 Emergencies once in 2000 and thirty-eight times in 2001. When the ISO faced imminent firm load interruptions, it repeatedly announced a shortage. The ISO, approximately 80% of the state of California’s energy grid, announced these emergencies during periods when the remainder of the state and the remainder of the region did not face emergency.¹⁸ Under normal conditions, the market and emergency operating procedures would have smoothly made capacity available to the ISO and these emergency declarations would not have been necessary. This was the case in 1994 when a deeper drought, a major transmission outage, and lower reserves would have made emergencies far more likely. Unfortunately, the California ISO was the victim of a host of market schemes and policy failures that created scarcity out of abundance. This is exactly the moment when FERC intervention is warranted.

The CERA reports authors have apparently made exactly the same error that they have accused FERC staff of making. They have assumed a state of scarcity without first checking whether the “legitimate scarcity” actually existed.

FERC’s refund methodology sets prices where they would have been, absent manipulation, and assuming that the marginal units required in the region would have been relatively inefficient gas fired units operating in the South Coast Air Quality Management District (SCAQMD).¹⁹ These are very conservative assumptions – far more conservative than the prices that would have prevailed without the disastrously designed California administrative apparatus, policy errors, and market manipulation.

Absent manipulation and policy intervention, electric markets are very straightforward. As loads increase, plants are dispatched in order of cost. In a smoothly functioning free market, the price of power equals the operating cost of the least efficient dispatched in any hour. Thus, higher loads “walk” up the supply curve of available resources until all requirements are met. Transmission constraints play a part when less expensive resources are not available. In this case the market splits

¹⁷Ibid., page 191. The WSCC definitions for the California subregion included Southern Nevada in 1994.

¹⁸It should be noted that the only Alert 3 Reports filed in the WECC during the California crisis were by the California ISO. No other control areas in the WECC faced Stage 3 Emergencies.

¹⁹The South Coast Air Quality Management District implemented RECLAIM, a market for NOx in 1994. Reclaim Trading Credit prices peaked in 2000 and reforms in 2001 set them to \$7.50 per pound of NOx – approximately \$7.50/MWh in 2001.

into two or more areas. Even in this case, the price in each of the isolated markets reflects the least efficient unit used to meet load. Absent the flaws and manipulations in the California market, the proxy plants used in the FERC methodology would not have been required.²⁰ Given the lack of net requirements in the Pacific Northwest for California resources and the inability of such resources to be dispatched for Pacific Northwest loads, the use of a proxy based on plants in the SCAQMD is highly inappropriate.²¹

In the absence of “legitimate scarcity” the best answer would be to return prices in the WECC to the cost of least efficient plant dispatched. FERC has adopted a standard far more protective of the marketers by assuming the use of inefficient plants obligated to purchase NOx credits throughout the entire crisis.

CERA’s Evidence of Shortage

The authors of the report cite seven points in support of their assumed shortage. Their arguments do not justify the existence of a “legitimate shortage.”

1. CERA: Hot weather caused summer peaks to be higher than expected and cold weather in November to cause heating loads to be higher than expected. Actually, California summer and winter peak loads were lower than expected during the entire crisis.²² Average loads were higher than in previous years, but this does not create a shortage. As discussed above, this only changes the marginal unit dispatched to meet load.

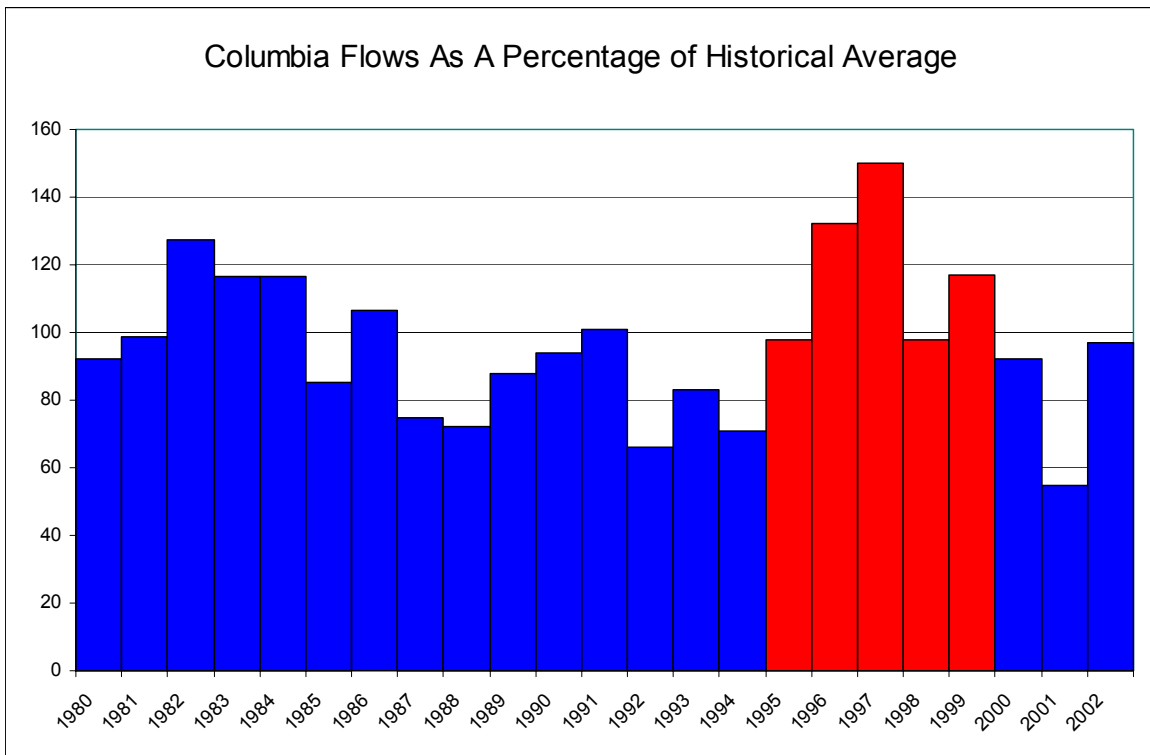
²⁰See NPG-1 in EI01-10-00 for dispatch prices of Pacific Northwest plants absent the California crisis.

²¹The California ISO implemented a secret Capacity Benefit Margin restriction on prescheduled exports from California to the Pacific Northwest at the end of 2000. Thus, even if the Pacific Northwest had desired to import high priced energy from the SCAQMD area, they would have been unable to do so. 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.

²²10-Year Coordinated Plan Summary 2000-2009, WSCC, October 2000, page 48. 10-Year Coordinated Plan Summary 2001-2010, WSCC, August 2001, pages 47-48. 10 Year Coordinated System Plan Summary 2002-2011, September 2002, page 49.

Month	Summer 2000		Winter 2000		Summer 2001	
	Forecasted	Actual	Forecasted	Actual	Forecasted	Actual
	July	August	December	January	August	August
Loads - Firm	50,832	50,253	39,435	36,790	54,606	47,000
Int. & Load Mgt	2,784	960	4	1,020	996	1,351
Total - MW	53,616	51,213	39,439	37,810	55,602	48,351
Growth from Previous Yr. - %	0.9%	-3.6%	-2.1%	0.5%	8.6%	-5.6%
Generation ± Transfers - MW	59,983	56,199	57,632	40,748	60,869	55,462
Maint./Inoperable Cap. - MW	-	2,911	889	18,670	18	7,175
Reserve Capability	9,151	5,946	17,308	3,958	6245	8,462
Percent of Firm Peak Demand	18.0%	11.8%	43.9%	10.8%	11.4%	18.0%

2. CERA: Low hydroelectric output. The assumption that lower flows cause a reduction in capacity is incorrect. As mentioned above, WECC protocols assume adverse hydro for planning. Actual flows for 2000 were 92% of historical levels, lower than levels in 1995 through 1999, but considerably above levels in 1992 through 1994.²³ The impact of hydroelectric generation on California was actually the exact opposite of the pattern described. During 2000, when the crisis started, flows were approximately average. In the summer of 2001, when the crisis ended, flows were unusually low.



3. CERA: Price Cap Distortions. The theory that neighboring states bought more power

²³<http://waterdata.usgs.gov/nwis/discharge>

because of the impact of California PX and ISO price caps is one of the most mysterious artifacts of the California crisis. This has been repeated frequently by spokesmen for marketers like Enron and El Paso, but has never been adequately explained. Given the First Law of Thermodynamics, total energy in the WECC is limited to actual loads within the region. With the exception of the very small firm interruptions that took place in 2001 – none taking place in 2000 – consumption of energy in California was equal to loads.²⁴ Loads in the Pacific Northwest were subject to far more aggressive load reduction programs than those in California.²⁵ Thus regardless of price caps, industrial loads fell far more dramatically in the Pacific Northwest as a result of the crisis than those in California. In reality, price cap distortions reduced purchases through the standard PX and ISO mechanisms and these missing supplies were replaced by the use of reserves, Fat Boy purchases (over scheduling to non-existent loads), and emergency purchases. The authors of the CERA report may have meant that if a WECC wide shortage existed and price caps restricted ISO “out of market” purchases, other regions could have bid more for the scarce supply. Both of these assumptions are incorrect.

While the filing of export schedules increased, they were offset by import schedules – mainly due to the use of Ricochet schemes and Death Stars.²⁶ In actual practice, California ISO “out of market purchases” – purchases from the bilateral market – were not subject to price caps.

4. CERA: Gas pipeline explosion. As written, the authors of the CERA Decision Brief cite an explosion in August 2001. Since this would place it outside of the dates of the California crisis – May 22, 2000 through July 3, 2001 – it is logical that they are actually referring to the August 19, 2000 explosion on the Pecos River near Carlsbad, New Mexico.²⁷ The CERA Decision Brief goes on to quote the EIS source that the loss of capacity was a “a major shock to supplies of natural gas in the Western Region, particularly in California, Arizona and New

²⁴California Load Shedding Detail, California ISO, May 18, 2003, indicates that total firm interruptions were only 30, 866.6 MWh – approximately 3.5 average megawatts. The closure of one Pacific Northwest industrial facility, Georgia Pacific Bellingham, reduced firm loads by almost twenty times as much in 2001.

²⁵An irony of the California crisis is that retail rates were fixed for most of the crisis period. Outside of California, most industry was either purchasing on the open market or was purchasing under market indexed formulas. Demand reduction programs at Pacific Northwest utilities took place soon after the onset of the crisis and led to widespread closures of major industry.

²⁶In August, 2000, Sam Van Vactor and I pointed out to the California PX that the apparent increase in exports were not showing up in the net statistics maintained outside of California. This was because Ricochet schedules were a simple mechanism to avoid the price caps. While export schedules were increasing rapidly, actual net flows were following levels expected during a normal water year.

²⁷Apparently the typographic error comes from FERC’s report which incorrectly quotes Status of Natural Gas Pipeline System Capacity Entering the 2000-2001 Heating Season, EIA, October 2000, page xviii.

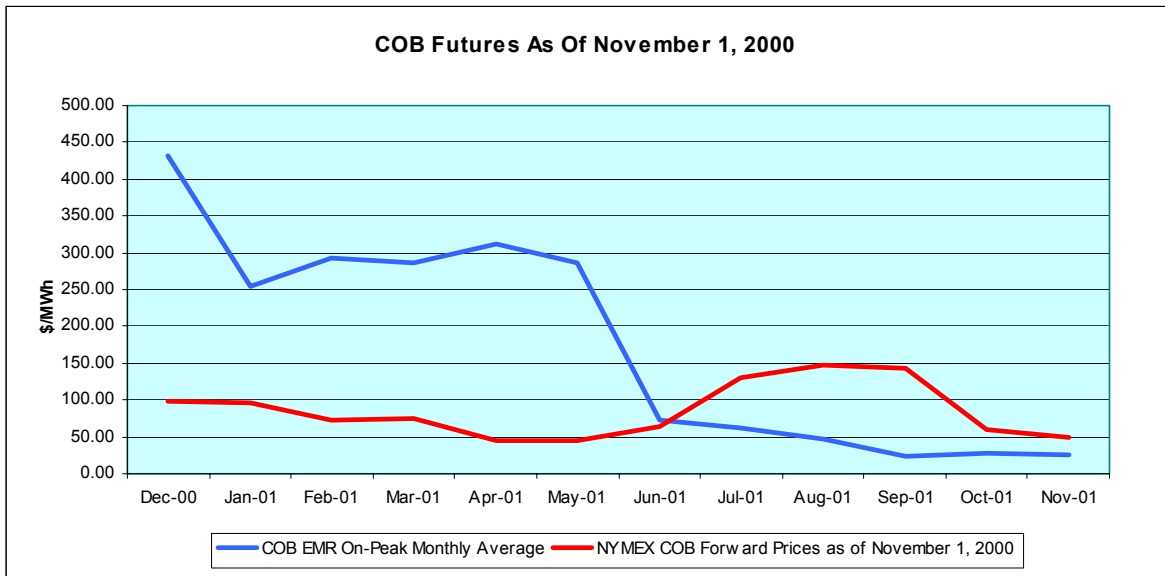
Mexico.”

CERA failed to quote the remainder of the section which provides a very different conclusion:

Although there is no guarantee that the network and supply system will always be capable of meeting requirements under all scenarios, it does suggest a resiliency in the system, at least in the short term, to deal with major disruptions.²⁸

The EIA’s opinion, whether reported accurately nor not, is not really substantive. The real question is whether the explosion represented a significant event in terms of electric or gas markets. Spot natural gas markets may have reacted to the change, but the change was moderate compared to the later winter spikes attributed to El Paso Gas market manipulation.²⁹ Forward markets appear to not have reacted to news of the explosion.

5. CERA: Low Levels of Natural Gas Storage. This is a complex argument. There is no evidence that general market participants understood the problems that would strike California in November. Forward curves from NYMEX and other sources simply did not forecast the enormous increase in spot electric prices that took place in the winter of 2000/2001.³⁰



²⁸Concluding paragraph from the article on page xviii.

²⁹August 19, 2000 gas prices (PG&E Large Package) were \$4.37. One week later they had climbed to \$5.23. This is a logical market development if gas was pulled from storage to fill the gap caused by the explosion.

³⁰NYMEX COB prices on November 1, 2000 versus COB on-peak prices from the Energy Market Report.

The decision to store gas for winter use is dependent on forecasted prices for electricity, winter weather, transportation capacity, and natural gas supply. A careful analysis of forward prices in November would have led a gas supplier to assume that natural gas would be less valuable in the immediate future. Storage in that case would have been inadvisable. Using this decision as an explanation for high prices later in the winter would seem to be circular, at best, and is clearly not a driving fundamental of shortage.

Ironically, the problems faced by the California PX and ISO after November were caused by the absence of natural gas generation. The highly questionable outages by California's major gas generators during the winter and spring were far greater than any market participant could have forecasted during the fall. It isn't clear whether gas consumption would have been higher or lower if these plant outages had reflected industry averages for plants of the same vintage, technology, and fuels.³¹

- 6. CERA: High electricity demand growth. WSCC planning documents forecasted higher peak demands than actually occurred for each peak season throughout the California crisis. As with the case in California, the major shift was plant outages, not demand.³²

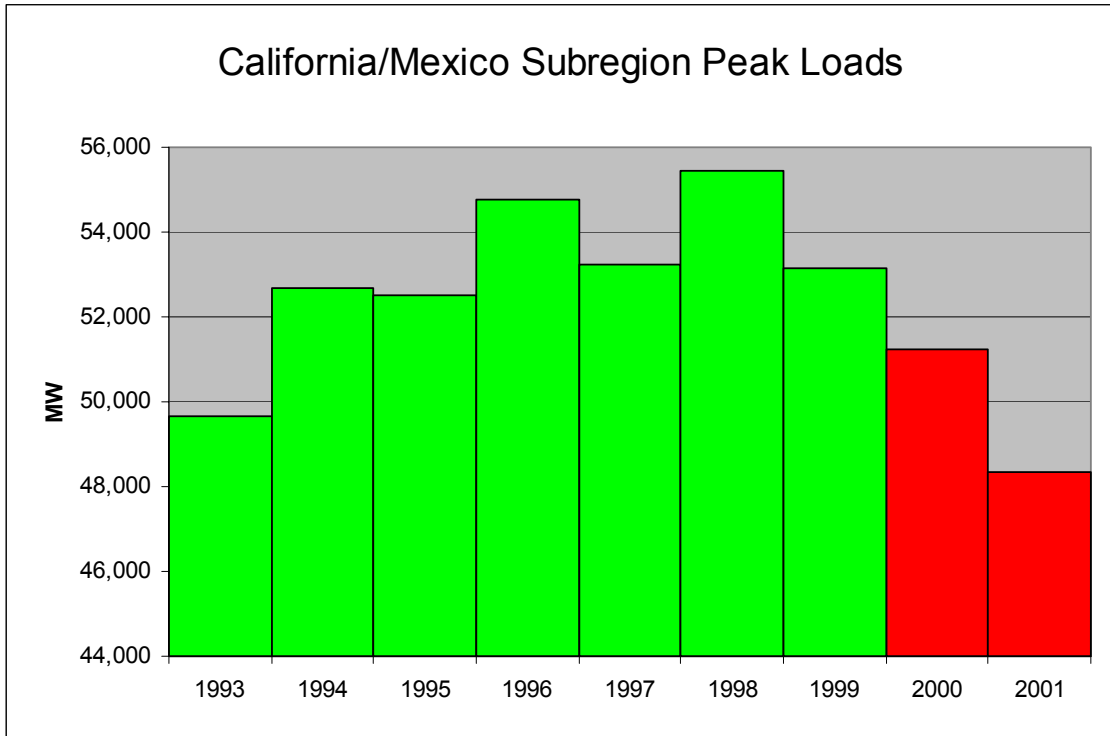
	Summer 2000		Winter 2000		Summer 2001	
	Forecasted	Actual	Forecasted	Actual	Forecasted	Actual
Month	July	July	December	December	August	August
Loads - Firm	127,857	129,030	119,587	113,525	132,637	123,193
Int. & Load Mgt	4,671	1,862	1,747	2,579	2,499	1,847
Total - MW	132,528	130,892	121,334	116,104	135,136	125,040
<i>Growth from Previous Yr. - %</i>	2.7%	1.4%	2.8%	0.7%	3.2%	-4.5%
Generation ± Transfers - MW	159,780	148,377	161,021	138,566	166,267	145,898
Maint./Inoperable Cap. - MW	3,910	10,790	4,660	20,886	3,939	15,525
Reserve Capability	28,013	19,347	36,774	25,041	29,691	22,705
<i>Percent of Firm Peak Demand</i>	21.9%	15.0%	30.8%	22.1%	22.4%	18.4%

In fact, California peak loads in 2000 and 2001 continued the downward trend that they had been on since 1998.³³

³¹The massive thermal plant outages of merchant plants owned by Duke, Dynegy, Mirant, Reliant, and Williams was the major shift in capacity margins in California as noted below. Replacement of this generation came from a number of different sources – use of reservoirs below planning limits, fuel shifting to oil and other fuels, and use of less efficient units.

³²10-Year Coordinated Plan Summary 2000-2009, WSCC, October 2000, page 48. 10-Year Coordinated Plan Summary 2001-2010, WSCC, August 2001, pages 47-48. 10 Year Coordinated System Plan Summary 2002-2011, September 2002, page 49.

³³Western Systems Coordinating Council: 10-Year Coordinated Plan Summaries: 1994-2001 (1993-2000).



7. CERA: Low growth in generation capacity. This statistic has been quoted widely – usually without a suitable context. Planned margins for 1993 showed a reserve margin (in percentage over load) of 29.3% in July.³⁴ This was universally viewed as far too high. A major issue in the deregulatory debate was the concept of “stranded assets” – generating plant so far in excess of requirements that it had no market value. The concept of “stranded assets” was a primary driver in the restructuring debate and led, ultimately, to the recovery of stranded investment charge – the famous “Competition Transition Charge” (CTC) of AB-1890. The CTC reflected the difference between market and traditional capital recovery needed to protect utility investors.³⁵

By 1999, the planning margin in the WSCC had fallen to 21.9% for July.³⁶ This was still considerably higher than the prudent minimum margin of 10% shown in the chart below.

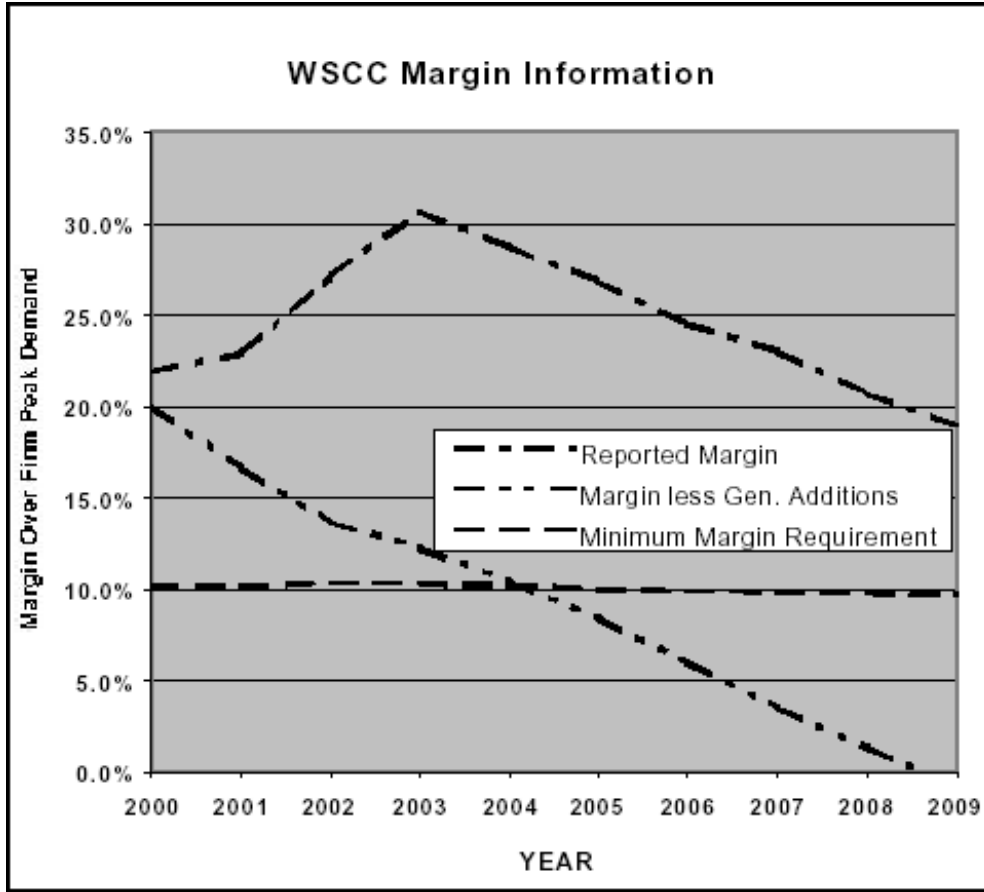
The WSCC table describing expected planning margins as of January 1, 2000 showed a very different picture than that argued by the authors of the CERA Decision Brief:³⁷

³⁴Summary of Estimated Loads and resource, WSCC, 1993, page 7.

³⁵AB-1890, Chapter 2.3, Article 1.

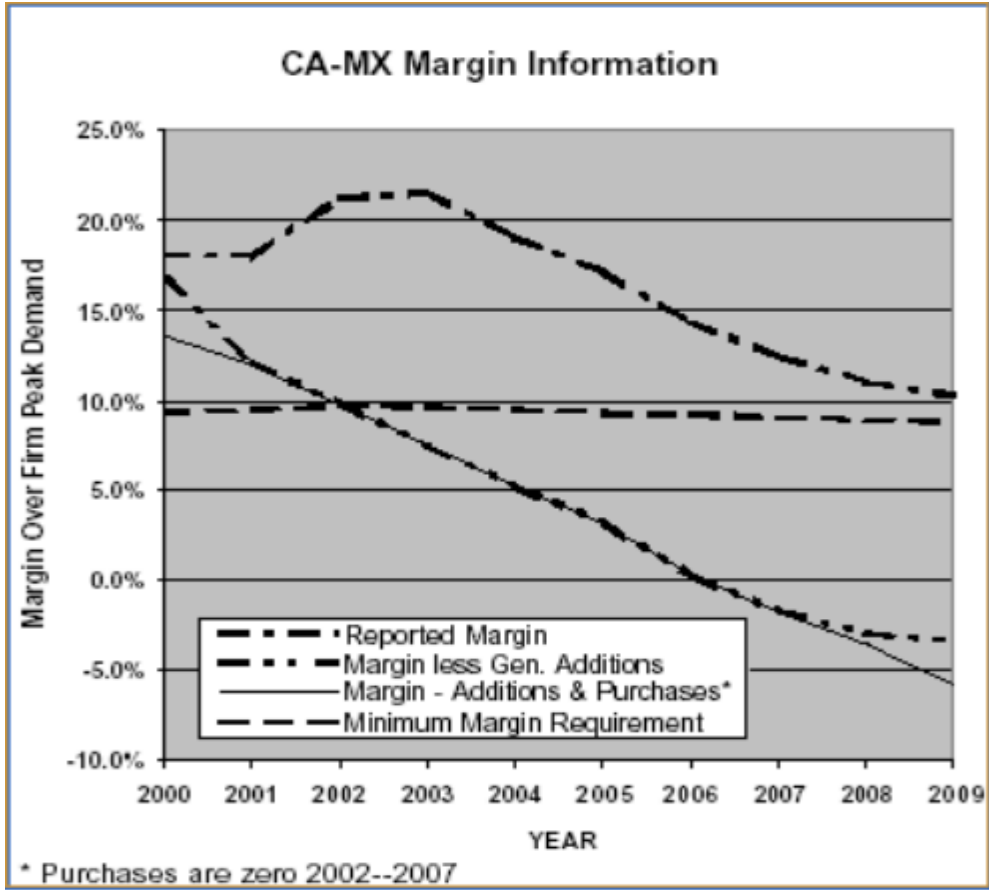
³⁶10 Year Coordinate Plan Summary 2000-2009, WSCC, October 2000, page 28.

³⁷Ibid. Page 21.



As can be seen, the WSCC believed that overall reserves were over twice minimum requirements. California reserves were not nearly as rosy, but they were still well above minimum requirements.³⁸

³⁸Ibid., page 22.



Actual California reserves, even after the higher than expected outage rates for merchant natural gas generators in California, were higher than the planned minimum margin requirement for all of 2000 and all but May 2001.³⁹

The implicit argument is that the true minimum reserve margins are in the 20% range. If so, centrally administered markets like those in California would be far less reliable than normal utility practice. A better answer is that a 20% margin is insufficient for an administered market facing extensive market manipulation and policy failure.

³⁹10 Year Coordinated Plan Summary 2002-2011, WECC, September 2002, page 49 and 10 Year Coordinated Plan Summary 2001-2010, WSCC, August 2001, page 48.

Are Price Spikes A Common Cost of Economic Expansion?

The central argument of the CERA Decision Brief is the theory that price spikes are a necessary signal for an expansion of electric and natural gas capacity. This is an academic hypothesis sharply at odds with market economics elsewhere in the economy. We would be surprised to find that as incentive to build more automobile plants that we had to wait for a period when cars were only sold at ten times their normal prices or that farm expansions required periodic famines.

The traditional laws of supply and demand – a tool developed by Alfred Marshall in the 19th century – do not show price spikes. The smoothly sloping demand and supply curves drawn by Marshall in his textbook in 1890 are still a centerpiece of economics texts today. These smooth curves make an attractive theory, but they have little relevance to electric and gas markets. Unlike the simple markets described by Marshall, both fuels are characterized by vertical supply curves – limitations on capacity in the short run, limited substitutes – vertical demand curves in the short run, and limits on storage. These special conditions make price spikes a serious risk if long term contracts and capacity prices are not available.

Bulk power markets designed by market participants – not academics – tend to price both short term products and long term capacity. In the robust energy markets before the California crisis, it was possible to get offers for both energy and capacity.⁴⁰ Within California, AB-1890's implementers attempted to force the market into the simplemonomic pricing schemes of introductory economics texts.^{41,42}

On page 5 of the CERA Decision Brief, the authors assume that monomic pricing is common in the WECC. The actual situation is almost completely opposite – restrictions on capacity pricing and long term contracts were restricted to the 80% of the market contained within the administered markets of the California ISO and PX. Since natural gas is not under control of the California PX and ISO, long term contracts for natural gas were also common.

The policy implications of allowing free markets in natural gas and in electricity – outside of the

⁴⁰It should always be remembered that the Pacific Northwest has had a robust bulk power market since the early 1980s. The free market is characterized by extensive market choice and price transparency. AB-1890's implementers restricted their administered market to eliminate long term contracts (actually forcing the market to operate on an hourly basis) and discouraged the free flow of information for fear that it would be used for market manipulation.

⁴¹One of the more treacherous areas for theorists who would like to replace free markets with centralized administered markets like those in California is the area of capacity pricing. The rules under which the PX and ISO markets operated forbade long term contracts. In practice, long term contracts represent a price for capacity – the commitment of future supply – and a component reflecting the expected cost of spot over the life of the contract. Free markets – those markets not constrained by centralized controls – have tended to allow both energy and capacity pricing. Centralized markets have tended to outlaw capacity pricing. These energy only markets face monomic pricing.

⁴²For a detailed discussion of the problems with monomic pricing, see Can Electricity Markets Work Without Capacity Prices?, Public Utilities Fortnightly, March 15, 1998.

centrally administered California markets – is that price spikes are not required for capital recovery. Presuming that price excursions are necessary for the construction for new capacity is equivalent to arguing that famines are required for agricultural investment. In practice, free markets often develop long term contractual arrangements that allow investment decisions to be amortized across the life of the new investment.

The CERA authors’ concern is that “whenever consuming area prices are greater than basin-plus-pipeline costs, FERC will disallow the premium.”⁴³ CERA’s concerns are highly exaggerated. The attempt to secure just and reasonable pricing in the WECC has now taken three exhausting years. FERC staff, and FERC itself, was unwilling to consider the possibility of market manipulation until the evidence became overwhelming. Leading market participants have plead guilty to conspiracy to commit wire fraud, major firms like El Paso Gas have accepted settlements in excess of a billion dollars to avoid further litigation, and many others face administrative and criminal prosecutions.

The correct answer is simply more complex than the lessons taken from Marshall’s 1890s textbook. In markets where short term supply limitations are close to absolute – electric generation as well as pipeline and transmission capacity, for example – an effective market requires the ability to contract for capacity as well as short term supplies. Capacity pricing and long term contracts are a central part of the market solution. California paid a heavy price for attempting to legislate these solutions out of the mix.

Regulatory checks and balances also have their part. FERC’s finding that El Paso Gas manipulated pipeline capacity to create an artificial gas shortage in the west reflected a simple application of common sense – checking whether the owners of a limited resource without near substitutes was taking advantage of market power.

The application of just and reasonable pricing review requires more than a test whether the prices are higher than fully allocated cost. It also requires a test to see whether the capacity in the market was greater than demand at the point when price spikes occurred. The combination of these two effects – price spikes and withholding – is a critical signal to regulators that market power is being exercised.

Arguments that long term supplies will be discouraged unless such price spikes are allowed are both short sighted and costly. Investments by other sectors of the economy – basic industry – require a stable pricing environment. Adding volatility to electric and gas prices by outlawing long term contracts and capacity prices adds the cost of risk to these customers and ultimately will deter investment.

This is not the first time that the economic welfare of the economy has created a need for checks and balances in an industry with capacity limits without near substitutes. J. P. Morgan’s efforts to

⁴³CERA Decision Brief, pages 9-10.

monopolize the intercontinental railway system at the turn of the century used many of the same arguments used in the CERA Decision Brief. Higher prices were required to protect the investments in the railways and to encourage their expansion. Theodore Roosevelt’s analysis was very different. This formidable advocate of free competition feared that allowing such a solution would discourage development of the west. His anti-trust prosecution of J. P. Morgan’s cartel was an enormous success for the U.S. economy. Accepting the precept that price spikes are a legitimate replacement for free markets with long term contracts and capacity pricing would be an equally large failure for the future of the U.S. economy.

Western Power Contracts

The heart of the CERA Decision Brief lies at the end of the report. After a detour through the evidence for an electric shortage and a defense of monomic pricing, the authors finally turn to their primary agenda – the defense of long term contracts signed during the California crisis.

Their defense has two principal arguments:

1. It is impossible to tell whether manipulations were designed to raise or lower natural gas prices;⁴⁴

and,
2. Long term contracts are being reviewed due to an asymmetry of information available to the parties.⁴⁵

Both arguments are deeply flawed.

The first argument starts by simply ignoring a central fact. The decision by El Paso Gas to withhold capacity had a direct and unambiguous impact on prices. The authors of the report clearly believe that the August 19, 2000 explosion contributed to higher prices. They should logically believe that El Paso’s withholding would have a similar (and larger) impact. This point is simply not addressed.

The flaw goes beyond this point, however. Everyone knows that schemes can be used to both raise or lower market prices. The decision by a trader to utilize a scheme depends on his or her market position. When Reliant chose to withhold capacity in July of 2000, their avowed plan was to support forward prices during periods when they were long.⁴⁶ The term “book bias” simply reflects that manipulations will follow the needs of the schemers – not their customers. The reports authors then go on to say “The FERC report does not provide an analysis of the net position of the alleged

⁴⁴CERA Decision Brief, page 12.

⁴⁵CERA Decision Brief, page 13.

⁴⁶Reliant Transcript, page 22.

manipulators.”⁴⁷ This is a curious statement. Both Enron and El Paso Gas started long – they are natural gas producers. The West Coast started short – Oregon, Washington, and California are natural gas consumers. The authors of this report would apparently have been surprised to find that the goal of Reliant’s withholding scheme was to raise prices. As far as I know, no one else had expected anything else considering that Reliant was a generator, not a consumer, in the California market.

In the end, the “book bias” issue comes back to the First Law of Thermodynamics. While individual marketers may well have taken positions that were long or short compared to the market as a whole, the positions of the marketers of gas and electricity were long – simply because their role in the market was to bring these commodities to consumers. The interest of suppliers would be to use schemes to raise prices. If consumers had possessed the ability to use the Yoder/Hall schemes (and been indifferent to the ethical and legal issues involved) they would have used them to lower prices.⁴⁸ In reality, consumers did not have these opportunities and would (and did) have recognized the ethical and legal prohibitions.^{49,50}

The second point is a bit difficult to understand. Long term contracts signed during the crisis, like all electric power contracts, are subject to FERC review. The protections provided to consumers under U.S. law are not designed to protect consumers against asymmetry in market information – although that is a laudatory policy goal – but to protect small consumers against market power.

The collapse of wholesale markets during the California crisis left consumers with few choices. The only two formal markets – the PX “Block Forward Market” and the two marketplaces operated by NYMEX had disappeared by the end of 2000. At that point, consumers only had recourse to the very thin bilateral market. Unlike the markets that were available before the California crisis, consumers had a very limited number of bids. Snohomish Public Utilities District, for example, ended up choosing between a pool of responses that was exactly the size of their requirements – effectively allowing no choice at all.

During the entire California crisis only fourteen long term contracts with durations of five years or

⁴⁷CERA Decision Brief, page 13.

⁴⁸Traders’ Strategies in the California Wholesale Power Markets/ISO Sanctions, Christian Yoder and Stephen Hall, December 6, 2000.

⁴⁹Under California PX and ISO rules, consumers were placed in an asymmetrical position. Utilities were restricted from utilizing long term contracts. The Yoder/Hall schemes reflected knowledge and abilities that traders and generators possessed, but were not available to consumers. The EHV data base – real time information made available by the ISO to WSCC members (including the generators that the ISO was supposed to have kept the information from) – was not also made available to consumers.

⁵⁰Sacramento Municipal Utility District is a case in point. When offered a suspicious transaction, SMUD personnel quickly identified the scheme and refused to participate. SMUD PA02-2-000 Affidavit, May 22, 2002, pages 7-8.

longer were signed at Mid-Columbia.⁵¹ This was not because consumers failed to appreciate the benefits of such contracts – it simply reflected the collapse in markets where even the most primitive market information was not available. One of McCullough Research’s clients compared the difficulty of receiving substantive offers during the crisis with that of buying life insurance in Mogadishu – attractive in concept, difficult in practice.

As to market information, a central facet of the Yoder/Hall schemes was fraud.⁵² We allow consumers protection against fraud, even though they are to expected to know about markets, but because we recognize that presenting dishonest information in the course of a negotiation can lead to a criminal advantage. The statement that “Given that both parties had access to similar forward gas and power price information, neither side had an information advantage[.]” is hardly an apt description of conditions during the California crisis.⁵³ Enron and others knew that the shortages at the California Power Exchange were fueled, in part, by the assignment of firm energy to non-existent loads.⁵⁴ Enron alone knew that the California ISO had artificially congested prescheduled flows along Path 15 and the AC and DC interties after December 26, 2000.⁵⁵ Enron certainly knew that the “two to four year shortage” Belden announced on the first day of the crisis contradicted his own internal forecasts.⁵⁶ In this case, “asymmetry of information” is a polite phrase for criminal fraud.⁵⁷

To the degree that criminal fraud is the basis for pricing of contracts – any contracts – there exists a powerful argument for application of FERC’s just and reasonable standard.

As to CERA’s case that a “legitimate shortage” occurred in WECC markets in 2000 and 2001, the best first step is for them to review the authoritative studies and protocols prepared by the WECC.

⁵¹Aspen Systems provided two CDs, containing datasets described as “...SAS versions of datasets submitted in response to a FERC letter order directing all jurisdictional and non-jurisdictional sellers with wholesales sales in US portion of Western Systems Coordinating Council to respond to information request.” FERC web site a <http://www.ferc.gov/Electric/bulkpower/PA02-2/datasets.htm>.

⁵²Get Shorty and Selling Non-firm as firm both constituted Enron selling a commodity that they did not, in fact, own.

⁵³CERA Decision Brief, page 13.

⁵⁴Timothy Belden Email to Terry Winter and Kellan Fluckiger, May 23, 2000.

⁵⁵ ISO Market Stabilization, ATC Reductions, and Manipulation of Industry Practice and Protocol, Sean Crandall , April 4, 2001.

⁵⁶Fundamentals Presentation, Enron Fundamentals Group, May 1, 2000.

⁵⁷Timothy Belden’s plea agreement with the U.S. Department of Justice makes it clear that this is fraud, not simply misrepresentation. See points 15 and 16 of the Information filed by Kevin Ryan and Charles Burch of the U.S. Department of Justice on October 17, 2002.

FERC's policy response is appropriate for protecting consumers who have been the victims of a deeply flawed market and already assumes a very conservative standard.