

**Restructuring in the Rearview Mirror – a 10-Year Retrospective of California’s
Doomed Experiment with Electric Deregulation. By The Energy Overseer**

The Random Numbers Generator and Other Vital Statistics for Summer 2000

During the course of another price spike in the midst of the summer 2000 power crisis, I conducted my usual weekly survey of energy traders to try to discern the reasons behind the run-up of prices at the California Power Exchange.

"The PX is a random numbers generator," offered a Northern California municipal utility scheduler.

At times this year, that seemed the best explanation for the crazy way markets operated over the past four months. Others may see a vast conspiracy of profiteers responsible for the high prices. I see a random universe busily churning through all of the possibilities given existing conditions. Some profess a belief that if the Power Exchange does not produce energy prices as cheaply as they expected, it is because the market is not "workably competitive." I see a twist on the old adage: What goes down must come up.

"Clearly, no reasonable, disinterested party would conclude that the prices we have seen in the West are the result of a competitive market," state Senator Steve Peace informed the Federal Energy Regulatory Commission last week.

Perhaps I'm neither reasonable nor disinterested, but I tend to have a broader definition of "competitive market" than the senator. I live in San Francisco, where a "competitive" housing market translates to 27 buyers for every decent listing and healthy premiums above the asking price when the sale is closed. When I look through help-wanted ads and see the phrase "competitive salary," I do not interpret that to mean a lower level of compensation for the successful applicant.

There are adverse consequences to competitive markets when demand outstrips supply, and we have experienced them this year. In housing, it leads to high mortgage costs and displacement of low-income families. In the jobs market, it causes employee disgruntlement with static wages and a growing disparity between the techno-elite and the traditional working classes. In energy markets, it has brought economic dislocations, consumer unrest and a political backlash.

Also, it has brought a wealth of new statistics that help document what at the time seemed a blur of system emergencies and political retribution. The emergency season seems to have passed--it is now 23 days since the last Stage One Alert was declared by the California Independent System Operator. The recriminations will probably last through the rest of the year.

First some really big numbers, courtesy of Cal-ISO and the California Energy Commission, representing total costs of energy and ancillary services (A/S) flowing through the Power Exchange and Cal-ISO markets this summer:

	Energy	A/S	Total
June	\$3.07 billion	\$436 million	\$3.514 billion
July	\$2.67 billion	\$125 million	\$2.801 billion
Aug.	\$4.2 billion	\$281 million	\$4.505 billion
Sept.	\$2.4 billion	\$152 million	\$2.558 billion
Total	\$12.34 billion	\$994 million	\$13.378 billion

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The figures show that the average price for power ranged between \$113/MWh and \$194/MWh, but the range of pricing on the California Power Exchange was far more extensive.

New price records on the CalPX were set early this year--some were recorded even before summer began. As the political pressures for more stringent price caps took hold of the Cal-ISO board, that also pushed down the clearing prices at the Power Exchange. The first peak of the year for PX market prices was on May 22, at \$863/MWh for supplemental peak load in the day-of market; that record lasted until June 28, when the single-hour price topped \$1,092/MWh. The top zonal price was \$1,099/MWh for NP15.

The day-ahead unconstrained market clearing price (UMCP) set that day for deliveries on June 29 also recorded a high-water mark, as the PX daily index hit \$391/MWh and the peak period index struck \$522/MWh. Once price caps at Cal-ISO were imposed at \$750, then \$500 and \$250/MWh respectively, the PX generally stayed within bounds. On occasion, a single hour day-of price might exceed the cap, but that was a rare occurrence.

Not surprisingly, the high prices corresponded with system stresses--but not necessarily the worst days for reliability.

There were plenty of difficult days experienced by Cal-ISO operators this summer. Three times, I've been told, the grid operator came within minutes of declaring a Stage Three Emergency.

The tally for the year (so far): "no-touch" days, 45; system alerts, 28; Stage One emergencies, 32; Stage Two emergencies, 17. Fourteen of the Stage Twos led to "voluntary" power curtailments by customers, with the greatest participation (between 1,778 MW and 2,190 MW of non-firm load shedding) happening in the July 31-August 2 period.

That was a tough week for Cal-ISO, particularly because it coincided with the \$250/MWh price-cap vote on August 1. But it was easily matched two weeks later, when there were five Stage Two declarations between August 11 and August 17.

Cal-ISO did not set a new system peak record this year, but it approached the 1999 high of 45,884 MW several times. Largely because of the heavy reliance on customer curtailments, however, the peaks recorded this year combine both system deliveries and load shedding at the peak hour. The highest day, according to Cal-ISO, came Wednesday, August 16, when 43,784 MW of power was delivered and 1,710 MW of power was curtailed, totaling 45,494 MW.

While California as a whole did not set a new peak record, several utilities did. The big jump for Pacific Gas & Electric occurred on June 14, when a new demand record of 23,361 MW was met. Some other Northern California utilities and agencies approached their all-time highs, but none reported new records. The books were rewritten in the Southwest, where Arizona, Nevada and New Mexico utilities set and eclipsed records repeatedly.

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But if California did not reach a new peak, it certainly increased overall energy consumption, by about 7 percent or so. Additionally, the diminishing availability of imported power from the Pacific Northwest--where hydro supplies were low this summer--and from the record-breaking Southwest meant Cal-ISO was continually skirting system emergencies.

So, what was the worst day of summer 2000? With various "record" days scattered through the season, it's difficult to pinpoint exactly. And as the crisis wore on, I'm sure that even "routine" emergencies seemed worse.

Probably the day that will stand out was June 14, when PG&E was forced into involuntary curtailments of about 100 MW of load--some 97,000 customers--in order to maintain voltage stability in the San Francisco region even as it met a new peak record.

Perhaps ironically, June 14 was not even a Stage Two Emergency day statewide, but it will stand as the day that rotating outages were declared in California despite the best efforts of utilities, consumers and system operators to keep the lights on.

It also marks the day when everyone woke up to realize that the "competitive market" in California was not behaving exactly as they had expected it would [**Arthur O'Donnell**].

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