

Docket:	:	<u>R1203014</u>
Exhibit Number	:	_____
Commissioner	:	<u>Michel Florio</u>
Admin. Law Judge	:	<u>David Gamson</u>
Witnesses	:	<u>Barbara George</u>
	:	_____

Order Instituting Rulemaking to Integrate  
and Refine Procurement Policies and  
Consider Long-Term Procurement Plans.

Rulemaking 12-03-014  
(Filed March 22, 2012)

**WOMEN'S ENERGY MATTERS  
REVISED REPLY TESTIMONY - LCRs**

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Note: this Revised Reply Testimony is very similar to our Reply Testimony. The changes are: the sections are reversed, the first section is retitled, the Table of Contents is replaced, and the xxxs are removed.

**WOMEN'S ENERGY MATTERS  
REVISED REPLY TESTIMONY – LCRS**

Women's Energy Matters (WEM) hereby submits Reply testimony. We also include testimony regarding methodology for procuring resources, as requested by the 7-13-12 AC Ruling.

**CAISO AND SCE DISCOUNTED PREFERRED RESOURCES**

Testimony by Mr. Sparks of CAISO on the “sensitivity study” for incremental uncommitted energy efficiency argues, “ISO does not believe it is prudent to rely on uncommitted resources for assessing future local system needs and ensuring the reliability of the bulk power system.” CAISO Supplemental Testimony, p. 4.

This is interesting, since the CAISO relies all the time on “uncommitted” power plant resources for those very same tasks. “Commitment” just means that they will be paid, and until the power plants get PPAs, they are just as uncommitted as future EE. We would agree that the question of what EE funds are directed to what programs needs to be matched up better with what is useful for procurement, but that's a different question.

It would be more useful for CAISO to provide commentary on what it would consider necessary for EE to obtain capacity payments, rather than simply expressing queasiness over the current and future EE offerings. WEM has offered the ISO-New England Manual for Measurement of Demand Side Programs, as an example of what would make it possible for an ISO to use EE as capacity.

The fact that “uncommitted EE” was not included in the forecast doesn't make it less reliable. In fact, WEM recommends pulling all current and potential EE and solar resources *out* of the forecast, so they can be considered side by side with energy supplies. As we explained in previous testimony, it is very unwieldy to have “committed” EE disappear into the load forecast whenever programs are approved in EE — and having to adjust the demand forecast every time the LTPP wants to consider a different number for “demand resources.” This interferes with comparing demand v. supply resources.<sup>1</sup>

WEM agrees that there are plenty of reasons for CAISO to be wary of EE figures — but in this case, the “committed” programs are every bit if not more dicey than the “uncommitted.”

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<sup>1</sup> Compounding these problems, in the last LTPP, the IOUs figured load growth *with uncommitted EE* while the CEC figured it without it. See 9-16-11 WEM Opening Brief on Track 1, pp. 25-26.

For example, the CEC demand forecasts have generally used the *goals (as anticipated at the start of the program cycle)* — rather than the *realization rates (what actually happened as verified by independent EM&V at the end of the program cycle)*. The realization rates for the 2006-08 programs were only about 62% across the board.

There would be serious penalties for a power plant owner who delivered only 62% of their contract, but the Commission not only overlooked this EE shortfall, it gave utilities bonuses for their higher, self-reported savings. In other words, incentives to fail.

We agree with CAISO that it's a major problem that EE resources are not targeted to any location, and the location of EE resources is not revealed:

Even programs that are more successful than anticipated may fail to produce the 19 required energy savings in the particular area specifically where they are needed and 20 when they are needed. Effectiveness on a broad system-wide basis can be 21 invaluable from a total resource adequacy perspective, but can easily fail to provide 22 the expected load relief if the programs are not successfully deployed when and 23 where needed in the constrained local capacity area. CAISO Supplemental, p. 5.

These problems could be solved however, by requiring the subset of EE resources that can be grid-reliable, to be evaluated on a more frequent timeline and fully revealing where they are located, as well as when and how much “negawatts” they provide to the system.

### **SCE Testimony**

SCE agrees with CAISO that “The location of existing and future generation impacts the amount of LCR capacity needed to meet reliability criteria.” SCE Testimony, pp. 7-8.

Unfortunately, it has given too little consideration to the location issue with regard to energy efficiency. It failed to discuss demand resources under the heading “non-generation options to meet LCR need.” Ibid, p. 15.

SCE is reluctant to have the Commission order it to procure any particular amount of LCR resources, but it wants authorization to define that itself. Ibid, p. 12.

SCE ends its testimony by warning that its creditworthiness might be impacted by procurement of new LCR generation. SCE, p. 27. The Commission should consider whether SCE is already shaky over and above the possible impact of LCR procurement.<sup>2</sup>

Edison's preference for having somebody else handle procurement sounds like a good idea and the Commission should take them up on it.

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<sup>2</sup> We attach Edison's current credit rating, found at <http://www.edison.com/files/eixcreditratings.pdf>

SCE's testimony hints at some of the paradigm changes that form the backdrop of this proceeding, though without offering much inspiration or creative ways to cope. At a time of growing climate chaos plus depletion of earth's mineral resources, SCE fails to plot a course towards sustainability for California. It seems more concerns about its own survival, which appears to be a problem.

### **METHODOLOGY FOR PROCURING RESOURCES**

*In this section of our Reply Testimony, WEM elaborates on the barriers in procurement methodology that may lead CAISO, SCE and other utilities to discount or ignore preferred resources in their opening testimony, as we noted in the section above — and how the Commission might be able to alleviate that problem.*

WEM agrees that the methodology for procuring clean resources needs much more attention, because the systems currently in use were developed primarily to access fossil fuels and nuclear power — and bypass preferred resources, whether intentionally or not. Despite LTPP decisions urging utilities to look for more renewables (e.g. D0712052) or more energy efficiency and other demand resources (D1204046), the utilities (and to some extent, CAISO, CEC and CPUC) have assumed that the “net short,” “renewables integration,” and “flexible capacity” will be filled by gas-fired power.

In fact, a great many preferred resources could and should be used instead — include ones that are currently designated “demand-side,” and “customer side of the meter.” WEM believes that it is unnecessary to build new conventional power resources to fill any “need” found in this track of this proceeding; it would also be possible to eliminate most of the gas power purchases (and all of the nuclear power), in favor of preferred resources.

#### **Language barriers**

The first problem that must be addressed is the rigid assumptions and thought processes that are buried in the language itself — most importantly, “ramping” and “dispatchable” are qualities of (gas) peaker plants. Use of these terms as exclusive requirements presents unnecessary barriers to preferred technologies, some of which have qualities that could not only substitute but would actually improve upon or eliminate the need for these qualities.

For example, the Commission should consider that the supposed need for “ramping and dispatchable” resources is linked primarily to air conditioning. Rooftop solar DG and wind are

not (at the moment) externally “ramped” by CAISO or the utility<sup>3</sup> — but rather, *the sun does the ramping and dispatching*. The summer sun simply takes care of serving the peak in midday, and later in the afternoon, in certain parts of the state, the rising air currents (from the heat) suck in cooler air from the ocean, for example creating the “Delta breeze” which *ramps up windmills*.

There is a mirror of this on the demand-side: as the sun ramps up on a hot day, air conditioners tend to work harder — *but that’s exactly when the energy efficiency technologies kick in that reduce the need for cooling (e.g. efficient air conditioners, evaporative coolers, insulation, white roofs, trees and efficient daytime lighting or “daylighting”)*.

### **Mother Nature should be sitting at the head of this table**

The current orientation towards technology and economic drivers tends to overlook nature. However, the ills that we seek to ameliorate with preferred resources are primarily affronts to nature (e.g., climate change; air, water and soil pollution; depletion of earth’s mineral and fresh water resources; the impacts of radioactivity — destruction of living tissue and mutation of DNA; excessive demand outstripping supply; etc.).

Preferred resources also tend to be more nature-based.

WEM recommends that the Commission and utilities reorient their views and processes to take into account the fact that preferred resources are more nature-based, and that technology and economic drivers have caused (and continue to cause) much of the destruction we seek to avert with preferred resources.

### **CA may need a variety of regulatory changes to support loading order procurement**

As WEM stated in our Response to SCE Motion to Strike:<sup>4</sup>

The Commission’s processes tend to be slow-moving and circuitous, often involving a series of adjustments in more than one proceeding in order to launch a new policy or methodology. Moving an issue through the right forums in the right order can make a big difference, so we strongly urge the leadership in this proceeding to get the process moving since it’s already been on hold for fourteen months.

Key elements are still missing that need to be accessed from other proceedings or other agencies. For example, ISO needs to put nuclear outages in its scenarios; the joint CEC/CPUC group “DAWG” or somebody somewhere needs to finally figure out how to

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<sup>3</sup> However, technology could be installed on distribution systems or the DG installations themselves that could measure the amount of energy feeding into the system and regulate it.

<sup>4</sup> This was written in regard to replacement resources for nuclear power but also applies to replacements for OTC or other increased needs.

use Evaluation, Measurement & Verification to qualify Energy Efficiency as a resource<sup>5</sup> (and the Commission needs to assess penalties for missing EE targets rather than paying utilities bonuses for that); the Resource Adequacy proceeding needs to declare Energy Efficiency and Distributed Generation NQC; a variety of issues involving distribution system capabilities and resources that are scattered amongst the IOU General Rate Cases need to be consolidated in a distribution grid rulemaking; and CEC and/or CPUC need to collect better data on what resources are attached to distribution grids. 7-23-12 WEM Response to SCE Motion to Strike, p. 6.

### **How can preferred resources compete, in systems dominated by dedicated gas-buyers?**

The mandate of AB57 for the Commission to give “upfront” approval applies more to construction of new resources, but it has been taken as near-blanket approval (and removal of a “reasonableness review”) for whatever utilities are doing. Ongoing power purchasing slips through the cracks.

Leading utility procurement personnel deal exclusively in conventional power (mostly natural gas) or renewables — not both (and buyers of demand resources are scarce to nonexistent). The conventional markets are more developed. In addition to CAISO’s markets, there is one like a stock exchange, as well as markets at or beyond California’s borders (the Palo Verde hub, the Calif.-Oregon Border (COB)). There are brokers that match one counterparty with another.<sup>6</sup> *The Commission should look at whether it is simply taking the utilities’ word for whether all these purchases are reasonable — or necessary.*

Less frequently (perhaps once or twice a year), a utility issues an RFO describing the products they’re planning to purchase, and providing bid documents and a structure for people to bid. These transactions are shorter than five years, and do not involve building new generation. These RFOs may be called “all-source” — but due to the language barriers described above, they immediately narrow the field to exclude almost all preferred resources.

CPUC should ask how preferred resources could get traction, when utility procurement personnel are divided into silos. More of them are assigned to purchase only gas power, and they are busy all day filling the utilities’ needs with that gas-power. In the absorption and excitement of the conventional markets, these people *are not required to ask* whether preferred

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<sup>5</sup> At the 6-26-12 Workshop on EE & Demand Forecasting, one of ED’s leading representatives stated that there needs to be funding from outside EM&V for procurement issues.

<sup>6</sup> Banks like JP Morgan, Deutsche Bank and Goldman provide such brokerage services. Of course this was Enron’s specialty as well.

resources could be used instead. Rather, they assume that the preferred resources have all been purchased, so they are now free to fill all remaining needs with gas.

**The procurement system needs more transparency**

A big problem in procurement is its overly secretive nature. As noted in the attached articles, the FERC is currently investigating gaming of the market in S. California by JP Morgan and Deutsche Bank (and a few years ago, Edison’s unregulated subsidiaries were also investigated for gaming in other states).<sup>7</sup> The FERC says it has the ability to return California to a “cost of service” system if necessary to stop the gaming.

While the decision to return to “cost of service” is ultimately up to the FERC (or the CA legislature), the Commission could have an impact by advocating for it in this LTPP, or making other, less drastic changes. For starters, it should improve transparency.

Currently, fairness in contracting is supposedly assured by a small and very overstretched group of “non-market participants” — the PRG — and Independent Evaluators (IEs). However, the myriad of daily transactions is clearly beyond their scope, as the recent gaming reveals.

In simplest terms, JPMorgan submitted bids in the day-ahead market that were so low the firm was certain to be accepted onto ISO's roster of potential electricity suppliers — in fact, they were negative bids, essentially offering to pay ISO to take their electricity. The bidding is overseen by software, not human beings, and the automated program isn't smart enough to distinguish a real bid from a potentially fake one.... ISO believes that JPMorgan never intended to make that sale, but the beauty they made it eligible to collect bid cost recovery payments.

The next step was for JPMorgan to make sure that electricity, presumably because the profit margin from the bid was greater than from actually selling energy. So in the end its electricity so high that ISO wouldn't buy it.

While this particular example of gaming has to do with CAISO’s market — which is not controlled by the CPUC or LTPP — the utilities are constantly making purchases on very fast timelines from a variety of markets or market mechanisms.

Sunshine helps greatly in all of these situations — gaming can be identified much sooner and more easily. The CPUC restrictions against publicly revealing certain information for three

<sup>7</sup> See attached, 7-18-12 LA Times, *Manipulation of California energy market gives consumers a jolt* <http://www.latimes.com/business/la-fi-hiltzik-20120718,0,4749635,full.column>

<sup>8</sup> 7-18-12 LA Times, *Manipulation of California energy market gives consumers a jolt* <http://www.latimes.com/business/la-fi-hiltzik-20120718,0,4749635,full.column>



years, greatly impedes oversight. The Commission should test the notion that the market requires such secrecy in order to function.

WEM recommends that CPUC and CAISO consult with CCAs and public power agencies on this matter. Brown Act requirements mandate greater sunshine, but these entities are able to engage in market transactions; energy suppliers are willing to work with them — in some cases they are even more eager.

### **Capacity markets**

It may seem counterintuitive for WEM to support capacity markets. It's one of the few things we have in common with SCE. While this is a broad question which we can only briefly touch on here, we clarify that capacity markets have enabled many other states to use “demand-side” preferred resources as capacity for several years, while California's procurement system continues to block these resources.<sup>9</sup> For this reason we think the Commission should seriously take another look at capacity markets.

We also believe that some of the problems associated with capacity markets could be alleviated with greater transparency.

One problem with capacity markets is that it allows natural gas generators to hide their actual costs, through capacity payments. When assessing the cost of various resources, the Commission should take into account the cost of capacity *plus* energy. (The Commission should also consider, as part of the big picture, the transmission and distribution costs — or the absence of those costs; the cost of Renewable Energy Credits; nuclear decommissioning, and site remediation for other toxic energy sites. Fuel cycle costs for all resources — from mining or drilling to refining, fuel fabrication, etc. to ¼ million years of nuclear waste disposal should also be part of the equation.)

Considering just capacity plus energy, gas power is very expensive. The CEC's levelized cost study showed the average cost of gas power was 80¢/kWh (for power plants in service in 2009) and \$1.00/kWh in 2018 — and \$3.00 for peakers plants. The bulk of these costs are hidden in capacity payments — making the *energy* they provide look cheap.

Compared to the *full* costs of gas power, solar is cheap, and energy efficiency is cheaper. The worst energy efficiency measure costs about 10¢/kWh, according to the Avoided Costs

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<sup>9</sup> See the attached excerpt from a power point by ISO-New England 2009 *Forward Capacity Auction for Demand Resources*, which describes the results of its first demand-side auction. Nearly 1000 MW of Energy efficiency resources won capacity payments in the auction.

study by E3.<sup>10</sup> The evolution of technology in solar and EE is driving costs down, whereas conventional power plant costs are continuing to rise.<sup>11</sup>

Natural gas fuel is rising again after its short-term collapse due to fracking. A leading industry expert at Cornell predicts that fracked gas would be exhausted in a decade or two at the current rate of extraction (and should be stopped much sooner due to the disastrous impacts on water supplies).

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<sup>10</sup> Energy Efficiency Avoided Costs 2011 Update, Energy and Environmental Economics, Inc., 12-19-11.

<sup>11</sup> For example, the brightness of LEDs has doubled nearly every two years, while LED prices have dropped. LEDs are used not only for replacing incandescents, but also for TVs and computer screens.

**Appendix A**  
**QUALIFICATIONS**

## **QUALIFICATIONS OF BARBARA GEORGE**

Q1. Please state your name and business address.

A1. My name is Barbara George. My business address is P. O. Box 548, Fairfax, California 94978.

Q2. By whom are you employed and in what capacity?

I am the Executive Director of Women's Energy Matters (WEM) and I am working with WEM as an advocate in the R1203014 proceeding.

Q3. Please describe your educational background and professional experience.

A3. I received a B.A. from Stanford University. I have been WEM's principle advocate in multiple CPUC proceedings since 2001. I have worked in many capacities on energy policy issues since the 1970s, particularly supporting energy efficiency and renewables, and analyzing the dangers of nuclear and fossil fuel power.

Q4. What is the purpose of your testimony?

A4. I am sponsoring WEM's testimony on nuclear power and demand resources.

Q5. Does this complete your testimony?

A5. Yes, it does.