BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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 OPENING COMMENTS ON RULES – TRACK 3

November 2, 2012

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TABLE OF CONTENTS

RECOMMENDATIONS

WOMEN'S ENERGY MATTERS
OPENING COMMENTS ON RULES – TRACK 3

Women's Energy Matters (WEM) appreciates this opportunity to provide opening comments on Rules, in Track 3 of this proceeding, pursuant to the schedule in the ALJ's email of October 4, 2012.

This is the first time that Rules have been specifically addressed in this proceeding. In the absence of workshops on this topic, we drew on a Draft Procurement Policy Manual (aka "Rulebook") prepared by Energy Division for the previous LTPP.[1]

Introduction

In WEM's Opening Testimony in R1005006, Track 2, we noted that the "Least Cost, Best Fit" (LCBF) approach to power procurement actually results in poorly fitting, more costly procurement — which is why the SBX1 2 legislation retired that concept.[2] The rule changes we recommend would facilitate a more promising approach. Our approach begins with defining our highest goals, and works backwards to figure out how to get there.

We paste bits of our May, 2011 comment below, to introduce an overall framework for our proposed changes, and summarize basic principles for procurement of each type of preferred resources. We also recommend specific changes to the existing rules as set forth in the draft Rulebook.

> A brilliant systems thinker by the name of Deming became frustrated with US automakers' insistence on *minimizing costs*. He moved to Japan, where auto executives were more receptive to his idea that planning should start with *maximizing benefits* and only then look at how to minimize costs. As they say, the rest is history — Japanese cars run circles around US models in trouble-free longevity, at comparable or lower prices and plenty of comfort as well.
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> SBX1 2 was signed into law in April 2011. It is not widely appreciated that the statute retired the concept of *Least Cost Best Fit* — so now California can put Mr. Deming's wisdom to use in building power systems.

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[1] The *Draft CPUC AB57, AB380 and SB1078 Procurement Policy Manual,* June 2010, is posted at the LTPP history page, http://www.cpuc.ca.gov/PUC/energy/Procurement/LTPP/ltpp_history.htm

[2] A couple of obvious problems come to mind: starting with the cheapest resource may violate other important criteria; also, someth ing that's a good fit in a dysfunctional system does little or nothing to improve it.

> Our current energy system is highly inefficient. It's based on a far-flung grid, featuring primarily central station power plants running mostly on natural gas and nuclear fuels (and some very old dams). Gas and nuclear power plants generate enormous amounts of waste heat; the transmission lines also heat up and waste energy. Some two-thirds of the energy in the original fuel is lost by the time it reaches the end-use customer.
>
> Our challenge and opportunity in the 21st century is to explore and utilize the many preferred resources that are available and affordable, while using all resources much more efficiently. "Fossil fuels" are dwindling and need to be phased out because they cause climate change and other pollution; "fracking" for natural gas is nearly as filthy as coal and even more disastrous for water supplies. Nuclear power has proved unreliable (and potentially catastrophic), and California's antique nukes have reached the point where costly repairs and retrofits cancel out the "economic advantages" they were given by the $28 billion bailout after deregulation.
>
> What we need is a more diverse, efficient and renewable energy supply. Properly regulated, it would control both costs and risks.
>
> The key to planning such a 21st century energy system is to embrace diversity and develop a combination of resources that is appropriate for a given location, circumstance and local resource mix. *It allows for new approaches by allowing for genuine competition, which is made possible by the presence of empowered referees.*
>
> Such a system exists in, of, and for the community, rather than being removed and remote from it. There is proactive oversight to ensure that the components of the energy system enhance rather than hurt the quality of life of residents. Such a system would produce more jobs and local economic benefits, while being more affordable overall.[3]

Precautionary Principle

Power procurement along these lines adheres to the *Precautionary Principle,* which advises us to choose what we know is safe and beneficial, rather than risk what we even suspect could be harmful, even though it's tempting to go there because it's easier or cheaper or more traditional or somebody's latest bright idea that hasn't undergone rigorous testing.

SPECIFIC CHANGES TO THE 2010 DRAFT RULEBOOK

WEM recommends the following rules, referencing changes to the 2010 Draft Rulebook where applicable.

[3] WEM Alternate Bundled Procurement Plan – Errata, May 23, 2011, pp. 6-7 (slightly edited and updated).

Emissions Performance Standard (G.9 in the Rulebook)

Currently, the Emissions Performance Standard (EPS) is based on the emissions from operating a natural gas combined cycle gas turbine. This is an obsolete standard. Considering only the emissions from *power plant operations* vastly undercounts emissions. The ruined fishing grounds of the Gulf Coast, tap water catching fire in fracked farmland, and the city of New York lying half underwater from superstorm [Cas]Sandra demonstrates that we'd better quit thinking in silos; ignoring true cause and effect is a quick route to extinction.

Fracking industry experts at Physicians, Scientists and Engineers for Healthy Energy 2012 have posted a brochure, Methane Emissions from Modern Gas Development, which begins:

> Methane is the second largest contributor to human-caused global warming after carbon dioxide. Natural gas systems are the single largest source of anthropogenic methane emissions in the U.S., representing almost 40% of total emissions (EPA 2011 data). …
> The majority of published studies agree that emissions from tight gas development are 40% to 60% higher than those of conventional gas; …
> The most recent science indicates that 2010 EPA emission rates for the domestic gas sector have already reached maximum thresholds, beyond which natural gas ceases to provide climate benefits.[4]

In other words, if we consider the emissions from fuel production as well as power plant use, natural gas is getting closer to coal — both make global warming worse, and both emit other pollution that cause health damage and other problems.

Emissions have also been ignored in the nuclear "fuel cycle." With nuclear power, not only should we consider the emissions from diesel, coal and gas fuels used in mining, refining, fuel fabrication and transportation, as well as power plant construction, retrofits and repairs — we must add the emissions from decommissioning all the nuclear sites, keeping the tailing piles from contaminating the rivers, and managing lethal "low-

[4] Physicians, Scientist, and Engineers for Healthy Energy 2012 http://www.psehealthyenergy.com/

level" and "high-level" radioactive wastes over a period longer than humans have existed on this planet.[5]

Nuclear Power is Not the Answer, by Helen Caldecott, discusses estimates of lifecycle emissions from nuclear power production. Very conservatively, it assumes these would be at least a third of natural gas plants. Due to the unimaginable time frames, WEM recommends that nuclear power emissions should be assumed to equal those of coal.

Considering the emissions of our energy system comprehensively is the first step to addressing the addiction to extreme power that threatens our lives — and all the other creatures with which we share this planet.

The Emissions Performance Standard should be based on the "lifecycle emissions" of a small hydroelectric dam, a windmill, or a solar panel. "Lifecycle emissions" of power technologies should be included wherever emissions are considered.

Note: changes in the EPS definition would also result in changes to Rule R.6 (c) EPS Reporting Requirements Common to All LSEs.

First: Maximize Benefits, then: Minimize Costs (MBMC) replaces LCBF (G.2(b))

As noted in the introduction, SBX1 2 retired the concept of *Least Cost Best Fit (LCBF),* though the utilities and the Commission have yet to take official notice. The Rulebook defines LCBF as follows:

> Selection of resources that are least cost, including the direct costs of energy generation and any indirect costs due integration of the resource and needed transmission investment. In addition, utilities are required to consider resources that best fit their system needs. D.04-07-029.

We suggest rewording this definition as follows:

Maximize Benefits; Minimize Costs (MCBC)

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[5] The official goal to prevent wastes from escaping (or exploding) the Yucca nuclear waste dump was 10,000 years — about the length of recorded human history — but scientists knew that the integrity of that site could not be ensured for even a fraction of that time. 10,000 years was an arbitrary target with no basis in reality — it is not nearly long enough to protect the biosphere. The halflife of "fission products" created in reactors includes some isotopes that are dangerous for millions of years (for example, radioactive nickel). The half-life of Plutonium 239 is 25,000 years, but it takes 10 half -lives — 250,000 years — for most of it to decay.

Utilities are required to follow the Loading Order in all procurement, weighing a combination of energy-savings and supplies that add up to an integrated portfolio of preferred resources, providing maximum emissions reductions, and promoting the efficient reliable use of existing infrastructure while taking advantage of ongoing investments in a more interactive local "microgrid" (wired, not wireless). Procurement should increase benefits to the local economy and jobs, and work to reverse a century of environmental and economic injustice to poor and minority communities. Final resource selection should minimize costs, considering the lifecycle direct costs over the expected useful life of the efficiency or generation resource, as well as any indirect costs due to integration of the resource and needed transmission/distribution investments.

LCBF should be replaced by MBMC in Rule G.2(b), valuation of contracts. Indirect costs should not be included when a resource is packaged with other technologies that provide integration. Only a fraction of the costs of renewables integration resources should be added to a standalone renewable resource, because the grid itself provides most of the necessary integration, through diverse resources in diverse locations.

General Valuation Guidelines (G.2(a))

WEM recommends adding the following guidelines:

Prior to the procurement of short, medium, or long-term resources, the utilities should work with their PRGS to map the existing resources in their portfolios, to determine which of them can meet the most stringent requirements for Local Capacity Requirements and Flexibility/ Renewables Integration. These should be converted to those purposes, while new demand-side resources and renewables should be used as much as possible to serve load.

The guidelines for valuation of transactions of three months or more should ensure that procurement follows the loading order. To that end, solicitations would be conducted in the following order:
1. Demand side products (as noted above, these would include Energy Efficiency, Demand Response, Distributed Generation and CHP — as well as Storage and Transmission /Distribution Enhancements.
2. Renewables
3. Conventional resources

Requests for Offers (RFOs) must really include *all resources* (G.2(b))

While Rule G.2(b) purports to include "all resources" in RFOs, in fact the utilities have not included energy efficiency in RFOs (or most other preferred resources) in procurement solicitations. Demand Response has been singled out for special treatment, outside of the RFO. The Commission should clarify that energy efficiency, demand

response, distributed generation, storage technologies, and transmission/ distribution enhancements must be allowed to bid in "all source" RFOs and other solicitations. Rule G.2(b) states:

> IOUs have the flexibility to tailor their RFOs to reflect their specific resource needs. The utility solicitations:
> 1) Shall specify the products to be purchased in sufficient detail for potential bidders to be able to determine if their proposed product qualifies.
> 2) May be all-source or may be segmented to allow similar sources to compete with each other.
> a. All-source solicitations shall be open to all resources capable of meeting the product requirements
> b. Segmented solicitations shall be limited to a specific preferred resource the IOU must procure to comply with Commission orders.

The August 2012 hearings established that the utilities have not provided clear definitions of their "specific resource needs," in terms that preferred resources could meet, especially for especially for Local Capacity Requirements (LCRs). Resource "characteristics" and "criteria" were expressed in terms that limited choices to conventional power supplies.

Rule G.a(b) should insert the following as 1) a:
Utility RFOs and other solicitations must define resource needs in terms that the widest range of supply and demand resources could meet.

The Commission should convene a task force immediately, to assist in rewriting these definitions.

2) a. (i) should be added, as follows:
Rather than the utility assuming that only certain products can "meet the product requirements," resource developers must be allowed to demonstrate in response to RFOs and other solicitations, how their resource could meet those requirements.

2) b. should be changed and c. and should be added, as follows:
b. Certain segmented solicitations shall be limited to a specific preferred resource the IOU must procure to comply with Commission orders.
c. Demand-side solicitations shall be conducted that include a full range of demand-side resources, including Energy Efficiency, Demand Response, Distributed Generation and Combined Heat & Power — as well as Storage, and Transmission /Distribution Enhancements.

Impacts of EE, DR, and DG Programs (RA.1(g))

The Rulebook's accounting for EE, DR and DG is very limited:

> The IOUs must prepare and document the hourly impacts of non dispatchable EE, DR and DG programs within their service territories and provide that information to the CEC to use in adjusting load forecasts. (D.05-10-042 at 41.)
> Load forecast reduction reflecting the impacts of energy efficiency programs should be based on: (1) assurance that a program will take place either through funding authorization or a contract between parties, and (2) sufficient program detail so the impacts can be assessed. (D.04-10-035, COL 10.)
> Load forecasting reductions reflecting customer-side-of-the-meter Distributed Generation impacts should reflect the output that these DG facilities are actually producing, not nameplate ratings. (D.04-10-035, COL 11.)
> Non-dispatchable demand response programs such as real-time price tariffs should be treated as debits from load forecasts, while demand response programs over which the LSE has dispatch control should be counted in the same manner as other resources. (D.04-10-035, COL 12.)

New rules should be added that reflect the opportunity for demand-side resources to bid into procurement solicitations, as we noted briefly above, in the section on RFOs. Such opportunities are already being provided in the territories encompassing ISO-New England, PJM and Midwest ISO.

As a starting point for developing rules appropriate for demand-side resources in procurement, WEM recommends that the Commission utilize the* ISO New England Manual for Measurement and Verification of Demand Reduction Value from Demand Resources (Manual M-MVDR), *3rd revision, May 6, 2011, which we provided as Exhibit WEM X ISO-1.

WEM recommends that the Commission convene a task force of EE, DR, and DG developers, interested parties, utilities, ISO, CEC, and ED staff to adapt this Manual for use in California.

This task force would coordinate with Energy Division staff who coordinate "Evaluation, Measurement & Verification" ((EM&V) for Energy Efficiency as well as staff that perform these duties for Demand Response. It would work closely with the other task force we recommend that would be engaged in rewriting the "characteristics" of various resources.

The two task forces should aim to complete draft versions of these documents by Dec. 31, 2012, so that they could be utilized in a Pilot program for procurement of resources to replace the power from San Onofre Nuclear Waste Generating Station (SONWGS).

Why EE in procurement may be considered separately from EE programs

The Energy Action Plan recognized that procurement should begin with Energy efficiency (EE) and conservation,[6] but the reality of utilizing EE in procurement requires further thinking, as utility and ISO witnesses acknowledged in hearings.[7]

In order to utilize EE for any particular need, it must be integrated with procurement of supply-side resources, by determining appropriate substitutes for qualifications required of generation. In addition, the location data must be collected, aggregated by substation, and made available to CAISO, utility procurement, CPUC and parties. With those things in place, EE can be targeted to particular locations.

By including EE as part of procurement, it would have an additional source of revenue that could replace customer surcharges, or add more revenue to the EE pot. The Commission is also preparing to launch financing pilots that would further reduce or eliminate up-front costs.

With new revenue sources, EE could be relieved of the need to always include customer buy-in, which requires costly marketing. No other power resource is saddled with the need to get individual customers to agree to pay part of the cost. This makes it possible to use new and exciting approaches, which vastly increases economies of scale, for example treating all homes and businesses in a neighborhood connected to a particular distribution substation.

Such practices would begin to realize the great potential of EE to assist in achieving 80% GHG reductions by 2050, as we urgently need to do.

EE resources bidding into procurement would be required to go through a robust evaluation system, that focuses on what extent the specific EE resource meets various criteria for different types of procurement. The EM&V for Energy Efficiency lacks such a focus.

EE Reporting Requirements (category R)

Providing data essential for the use of EE resources in procurement is long overdue and very urgent.

The Commission's EM&V staff and contractors should work with utilities and other EE administrators to develop a system to compile location data for EE installations in a timely way. Location data should be correlated with all the other ex ante data that

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[6] EE focuses on reducing the amount of power needed for a nearly infinite amount of end uses, utilizing efficient elements in construction or retrofits, more efficient appliances and lighting, better maintenance, building codes, building designs, and even landscaping. Conservation focuses on changing customer behavior to reduce energy waste.

[7] It's been a long time since Pres. Carter authorized federal funds for energy efficiency programs, which were initially intended to reduce the power system's dependence on expensive fuels; in the intervening years the focus shifted from the grid to the customer, and California's EE system became less and less capable of reducing specific power needs.

relates to procurement, which are contained in the applications (and subsequently corrected by the ex post data in the EM&V reports), such as measure ID #, number of measures, load shape, EUL, customer class, climate zone, etc.

The location databases for each EE administrator should include targeting data from applications, PIPs or compliance filings and should be trued up with actual installations within a month or at most a quarter after installations are completed. Initial data to populate the databases should be extracted from the 2010-12 EE installations, which are currently undergoing EM&V.

In order to protect customer confidentiality and facilitate use by procurement planners and managers, the EE location data should be aggregated by substations and should be made available monthly or at least quarterly to CAISO, CPUC, CEC and LSE procurement departments.

Transparency on the distribution system

WEM feels that the extreme confidentiality that has been applied to large-scale resources connected to the transmission system have been excessive. But as bad as that has been, nothing compares to the secrecy and inaccessibility of the distribution system. Currently, this is a private fiefdom controlled almost exclusively by the utilities. Nearly all preferred resources except large-scale renewables are attached to distribution; power outages occur there far more frequently than on transmission. In order to address these things, the distribution system must become much more transparent. The databases described above are a beginning. More is needed.

Conclusion

The current Rules are related largely to deregulation and the crisis of the early 2000s. The solution of that time — of procuring excess gas power plants to avoid manipulation — is no longer valid, environmentally or economically. There is a need to update the Rules to facilitate development of preferred resources while controlling costs. A more renewable system would be more expensive unless efficiency, demand response and distributed generation are better utilized. We look forward to further opportunities to develop these Rules.

Dated: November 2, 2012

Respectfully Submitted,

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