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 10-05-006 (Filed May 6, 2010)

WOMEN'S ENERGY MATTERS RESPONSE TO PG&E/SCE MOTION TO STRIKE

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WOMEN'S ENERGY MATTERS
RESPONSE TO PG&E/SCE MOTION TO STRIKE

Pursuant to Rule 11.1(e), Women's Energy Matters (WEM) files this Response to the Motion of Pacific Gas and Electric Company and Southern California Edison Company to Strike Portions of the Testimony Submitted by Women's Energy Matters and Pacific Environment, filed May 10, 2011 by SCE/PG&E. Our response is timely filed, within less than 15 days of the Motion.

The Commission should deny the Motion in regard to WEM's testimony its entirety, for the reasons set forth below.[1] It should consider sanctioning PG&E and Edison for attempting to mislead the Commission by providing false and spurious references, most seriously with regard to nuclear power emergencies (see p. 20).

PG&E/SCE Motion thoroughly contradicts itself

The Commission should consider what the Motion left standing and *did not challenge* — all of pp. 4-5-6-7 ending just before "LTPP should include closure of nuclear power plants;" the whole section entitled "Key elements of WEM's Bundled Procurement Plan for California IOUs" on pp. 10-12-13 ending just before "Interconnection and contract issues;" and the last sections, pp. 21-2, starting with subsection (11) "Incorporate potential savings resulting from GHG reduction funding" through to the end.

Apparently, PG&E/SCE apparently agree with WEM that *all of the issues we raised in these sections are in-scope, procurement-related, relevant, consequential, and have not been considered in other procurement-related documents*.

But wait — these are the same issues that come up in the sections they want stricken! Here in our original language are examples of "issues" that the Motion *left standing, did not seek to strike:*

> Our challenge and opportunity in the 21st century is to explore **and utilize the many alternative resources that are available and affordable. "Fossil fuels" are in decline and need to be phased out because they cause climate change and other pollution; nuclear power has proved too dangerous to use.** A more diverse, renewable energy supply **controls both costs and risks**…" WEM Testimony, p. 6;

[1] It should also deny the Motion to strike Pacific Environment's testimony, for reasons described in Pacific Environment's response, and also because some of the points we make in regard to WEM's testimony apply to Pacific Environment's testimony as well.

> [T]he plan expands preferred resources, particularly energy efficiency and distributed generation, while **retiring power plants that use once-through cooling — including nuclear reactors;**…
> WEMBPP's simple **changes to contract language, including for Rule 21 projects**…makes it possible for small projects to obtain financing;…
> [D]evelopment of an intricate, sensitive and responsive microgrid in populated areas, which can accommodate **DG interconnections** and provide feedback on both DG and EE installations to enable overall 'right-sizing' of resources;…
> To WEM, tiny EE and DG resources are magical… After all, you can multiply small numbers and get big numbers. For example, 250,000 2 kW household solar PV systems; 5,000 100 kW commercial PV systems; 10 million CFLs or appropriate numbers of efficient air conditioners **would each provide resources comparable to a 500 MW power plant – without an inch of transmission lines and without producing smoke, GHG or nuclear waste**… Ibid, pp. 11-13 (emphasis added).

What the IOUs asked the Commission to strike are WEM's in-depth analysis that supported the issues we raised, and our practical solutions for problems that procurement planners might face in actually putting into practice what we are proposing.

Why would the utilities go to the trouble of trying to strike only these sections? WEM can only speculate since it's impossible to really *know* someone else's motivation — but could it be that they're comfortable with lip-service to the loading order — except when it starts to get real, when someone actually intends to do something to make it happen, they get very nervous about being revealed as frauds and constantly try to shut that down?

Consider a case in point: PG&E's costly efforts to convince Marin that it could not possibly exceed PG&E's amount of renewable energy while maintaining comparable rates — however Marin Energy Authority achieved 27.5% renewables in its very first year, exceeding PG&E by 10 points, while charging comparable rates.

PG&E/SCE Motion wastes time, provides incomplete, false and spurious references

The Motion wasted our time and the Commission's time by providing incomplete, false and sometimes spurious references, as we will describe further below. It provided few page citations even when referencing decisions, for example Motion p. 6, footnote 5: "See e.g. D.09-06-016, p. 30; D.10-09-034; and D.10-05-049." Because of the complexity and the poor documentation, WEM had to spend excessive time investigating

whether there was any truth to their allegations; all of which we have disproven. See in particular pp. 8 and 20 below.

Utilities misconstrued WEM's proposals re EE goals

On the off-chance that utility lawyers somehow didn't notice that all the issues in the sections they left standing were the same ones they meant to strike, we will also address their arguments. Let's start with this one: "The Commission Should Strike Energy Efficiency Program Proposals by WEM and PE." Motion, p. 5.

The Motion quoted the OIR statement, "'we will not consider new EE goals in this proceeding.' (OIR, p. 12, fn. 22.)" Motion, pp. 5-6. This certainly implied that WEM asked the Commission to consider new goals in this proceeding, but the Motion failed to identify any passage where WEM made such a request. *On the contrary, WEM requested the Commission to make sure it considered the goals that were set in EE proceedings, rather than higher goals appearing elsewhere:*

> The actual goals CPUC set for utility EE programs in 2004 (in D0409067) would provide less than 0.3%/year reductions — i.e. less than 3% over ten years; in 2008 and 09 these goals were *further reduced*. These numbers bear no relation to the much higher goals in the CPUC's "Strategic Plan for Energy Efficiency through 2020" (updated January 2010) or the ARB goals. *The Planning Assumptions reflects the lower goals set in EE proceedings, but the ALJ and parties to this proceeding should be aware of the confusion on this issue and make sure the IOUs' numbers reflect the actual EE goals. WEM Testimony, p. 21.*

We made it clear that our proposal was *additional* to the "goals" of those programs:

> (10) Recognize that EE savings from RFOs would be *additional* to "EE goals" The Commission should understand that an RFO allowing EE could capture savings —particularly peak savings — that are not likely to be realized in current EE programs. WEM, p. 21.

We acknowledge that there was some room for misunderstanding, because one of our subsection headings stated: "Increase the capability of EE to meet goals — and increase the goals." WEM, p. 19.[2] However, it is abundantly clear from our discussion in the three paragraphs under this subheading that "increase the goals" was a *generic reference* — i.e. "we can do better here" — rather than a proposal to

[2] This is in the section titled "How to *really* make Energy Efficiency #1 in the 'Loading Order of Resources.'"

raise the *specific goals* of EE program portfolios (either in this proceeding or in EE proceedings).

Instead, we discussed ongoing IOU performance problems with EE and the likelihood that they would once again fail to achieve the Commission's EE goals; we discussed why the last LTPP decision D0712052 credited only 20% of EE goals as actually available to serve load, and we noted that significant uncertainties remained about "overlap" and "cumulative savings" even after the multi-year study by CPUC and CEC staff that sought to resolve such issues.

In fact, WEM proposed ways for California to achieve more energy savings — that *bypassed the EE goals and goal-setting process* altogether. Our proposals even bypass the concept of EE programs — in the sense of programs that are included in utilities' portfolios that are subject to CPUC's goals. WEM would possibly support efforts to improve EE programs and raise goals — but ***WEM's proposal exists outside the EE realm; it makes EE directly accountable to the metrics of procurement planners and CAISO, and is not restricted to EE funding.***

Uncertainty regarding Public Goods Charge energy efficiency funds[3]

The legislature has appropriated most of the gas surcharge funds for the general fund this year — ***WEM learned this week that gas-related EE programs are already closing down.*** Lawmakers are currently debating whether or not to extend the Public Goods Charge (PGC) surcharge on electric rates, which sunsets just six months from now, in January 2012. There is a 2/3 vote required for extension, so it's not a slam-dunk. It's possible, too, that electric PGC funds could be taken for the general fund this year (although they appear to be less vulnerable than gas funds, which were held in a different account).

At the Senate Energy Committee hearing on EE this week (*Energy Efficiency, Is the State's Top Energy Resource Working?* May 17, 2011), the Chair expressed disapproval when a CPUC representative suggested that the Commission could simply order utilities to impose other charges to keep these programs going. Committee

[3] Up until now, different pots of EE funds have been pooled together in all programs: (1) "Public Goods Charge" EE surcharge, (2) procurement EE surcharge (electric), (3) Gas Public Purpose Program surcharge. For some time, WEM has discussed allocating these funding pots to separate purposes; this was implicit in our proposal.

members expressed determination to prevent such action by imposing limitations on the Commission's authority. Lawmakers' questions also indicated that they felt the different pots of funds should be allocated to different uses.

WEM has raised similar concerns in CPUC proceedings since 2005 when large "procurement EE" funds were established. ***WEM's proposal in this proceeding may well accommodate changes the legislature is considering, by devoting "procurement EE" surcharge funds to genuinely procurement-related activities.***

Utilities seek to ban dialog

It is one of the major flaws in the Motion's argument that they want the Commission to rule that proposals for new ways of doing things should only be expressed once, in one proceeding. If utilities' goal is to stay stuck in the past, it's a great recipe to ban dialog.

The way human beings develop new ideas generally involves a group process, where ideas are raised, modified and expanded through dialog, often in multiple venues. A new idea is seldom embraced on the first hearing, especially one that challenges entrenched practices that provide substantial benefits to powerful established forces.

The utilities mistakenly conflate offering and discussing proposals with "relitigating."[4]

Utilities seek to ban dialog about what it means to link EE and procurement

The Motion stated that D0906016, the Decision granting intervenor compensation to WEM for our contributions to D0809040 (adopting the CPUC's Long-Term EE Strategic Plan), "included WEM's proposals to link integrated demand-side management ("DSM") with procurement and address peak load caused by AC usage." Motion, p. 7.[5]

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[4] The utilities' fear of meeting an issue that was raised previously seems out of proportion — as if they've been exonerated of murder and they're being dragged up again on the same charges. (While the utilities' failure to meet the loading order may in fact have caused mortalities, they seem pretty well protected from murder charges.) These issues need to be raised multiple times because there is a learning curve that must be taken into account — especially when people need to *unlearn* something that worked for a hundred years and try something new.

[5] The Compensation decision D0906016 noted that WEM's contribution led to the Commission rejecting the utilities' version of the Strategic Plan, and their control of the planning process.

This is an interesting example for IOUs to choose. They're aware that WEM has raised these issues repeatedly in various EE proceedings, as well as procurement proceedings.[6]

Surely they are also aware that the Commission has stopped short of making some of the changes WEM has recommended that would fully "link" EE to procurement: in the sense that CAISO and procurement planners understand and accept that certain EE contracts will serve a particular need that would otherwise have to be filled by supply side contracts. While WEM has made some progress in bringing these issues into the discourse, there's still a great deal more to be done.

More false and spurious references

The Motion, p. 6. listed five WEM proposals that utilities claim the Commission have already been considered and therefore should be stricken. As noted above (p. 2), footnote 5 offers three decisions as references but only one page number.

The second decision referenced turned out to be this one: Decision 10-09-034 September 23, 2010 DECISION GRANTING AUTHORIZATION TO THE CITY OF HEALDSBURG TO CONVERT AN EXISTING PRIVATE AT-GRADE HIGHWAY-RAIL CROSSING TO A PUBLIC CROSSING.)

A page number is provided for their reference to D0906016: p. 30. None of the 5 listed proposals is mentioned on that page. On the next page there is a listing of WEM's recommendations that were mentioned in Appendix C to the utilities' Strategic Plan, which was simply a listing of parties' input. The compensation decision then stated:

> The IOUs incorporated WEM's comments into the CEESP on disclosure of energy efficiency locations, on-bill financing, and impact of air conditioning on various sectors. They did not use the other WEM recommendations because they said adequate controls existed for ME&O funds, DSM is a base not a peak resource, and … D0906016, p. 31.

While we appreciated the utilities incorporating some morsels of our input, and were grateful for the Commission providing compensation on that basis, unfortunately

[6] The Motion stated that WEM made similar comments also in A0807021 and R0911014. Note that R0911014 opened after the Strategic Plan docket was closed, but utilities did not seek to strike WEM's comments on this issue there.

the utilities did not see fit to fully incorporate our recommendations in their version of the Strategic Plan, and therefore we continued to raise them.

(Utilities are attempting to deceive this Commission. It is instructive in terms of this Motion that the above quote from the compensation decision mentioned utilities' contention that "DSM is a base not a peak resource." This confirms one of WEM's major concerns, and undermines utilities' claims that procurement has been "linked" with DSM. Obviously, EE is not linked with procurement of peak resources if utilities consider it only a base-load resource.

The utilities are attempting to deceive the Commission and parties in this proceeding by citing compensation decisions that credit WEM for input on these issues — implying that WEM's proposals were fully adopted when they were not. The utilities are also attempting to put WEM in the position of denying that we should have been compensated for that input. Utilities should be sanctioned for such deceptive arguments.)

The compensation decision mentioned that an Appendix to the *Commission's* Draft plan[7] noted another WEM comment re "linking" EE with procurement:

> Appendix 1 identifies a few comments on the Commission's Draft plan submitted by WEM that … inquire how energy efficiency can participate in the Forward Capacity Market and qualify as peak resources. (Appendix 1 at 8.) D0906016, p. 32.

The final Strategic Plan itself did not in fact incorporate this "inquiry." The compensation decision noted SCE's contention that it was "outside the scope of the Plan." Commentary in the compensation decision gives reasons why the Commission should deny the utilities' current Motion:

> The Commission values the participation of a wide range of stakeholders in order to develop the best ideas and information from which to craft its decisions, and appreciates that WEM offers a unique view. However, the intervenor compensation process requires that participation alone is insufficient and a party must become a useful advocate of a unique position that substantially contributes to the resulting decision.
>
> We benefited from WEM's participation, analysis and discussion which improved the dialogue in this proceeding, even if some of its input was unnecessary or outside the scope. We find that WEM's comments and recommendations did

[7] Note that there were two draft Strategic Plans – one produced by the utilities, and a later one produced by the Commission. This was the Plan which was later adopted.

> substantially contribute in the following areas: Commission-sponsored statewide planning, linking integrated DSM with procurement, and expanding discussion of ways to address peak load caused by air conditioning. Ibid, p. 33.

Distinction between the Strategic Plan and EE Portfolios

It's important for those involved in the Commission's procurement docket who have never participated in EE proceedings to understand the distinction between the Strategic Plan and the decisions in EE portfolios proceedings: the Strategic Plan is a *concept* document; utilities are only required to comply with elements of the Strategic Plan that are incorporated into decisions in EE program portfolios proceedings (e.g. A0807021) or EE Rulemakings (e.g. R0911014).

Residential Peak-Reducing On-Bill Financing

The Motion claims that the Commission has already considered "a revolving fund for On-Bill Financing (OBF) of peak-reducing measures, which WEM proposed at 19." Motion, p. 7. Actually, in this proceeding, WEM was advocating OBF funds particularly for *residential* peak-reducing measures, whereas D0710032 limited OBF to small commercial, and D0909047 expanded it to medium size commercial and institutional but provided no financing for residential customers:

> With one specific exception, none of the utilities proposes utility financed efficiency for residential customers, citing the complexity and overhead costs of adhering to federal and state consumer lending laws.130 [130 SDG&E plans to continue to offer on-bill financing to multi-family buildings that are not owner occupied, and thus qualifying as a business.] Ibid, pp. 274-275

It's possible that the Commission would consider residential peak-reducing OBF for the next EE cycle, but such considerations are not expected to begin until 2013 if the cycle is extended a year as is currently being discussed – i.e. program planning in 2013 for programs starting in 2014. This is a ways off.

Meanwhile, EE proceedings have historically undervalued peak reductions, whereas serving the peak is the primary concern of nearly all procurement decisions.[8] As a result, the funding is currently inadequate for EE measures that reduce the peak

[8] Avoided costs used in EE proceedings do not value peak savings at the same rate charged for peak power supplies.

– i.e. better HVAC, insulation, white roofs and trees, which WEM mentioned a couple of times in our testimony.

This is why WEM believed its proposal for *revolving loans for residential OBF peak-reductions* was appropriate to bring to the procurement docket. It was in fact a unique proposal although its novelty was not particularly important to WEM. We were most excited about the scope and rapidity of alternative EE power resources that such an OBF program could achieve.

OBF funding for peak-reducing measures would save handsome amounts on air-conditioning bills for people in hot, inland areas.

If WEM's residential procurement-focused adaptation of OBF were adopted in this LTPP proceeding and adequately funded, it could be up and running *two years earlier* than any new OBF program in EE proceedings.[9] *This is significant in view of the urgent need to close nuclear power plants and other once-through cooling power plants; and the fact that EE could replace significant amounts of those power supplies at the lowest possible cost and zero emissions.*

You could make this program available to renters through a combination of stimulus funds from ARRA — the American Recovery and Reinvestment Actå - and program dollars for landlords that would be contingent on landlords agreeing to allow tenants to participate in stimulus funded or OBF programs that would save money for renters as well. (The utility would have to take a chance on being able to identify renters that intended to stay in the unit — unless the government decided to rule more creatively about allowing bills to follow the renter of a particular space, not just an owner.)

WEM's proposals may be a better fit for Procurement than for EE proceedings

After more than half a decade of raising this issue in EE proceedings, WEM has come to the conclusion that *procurement dockets may be a more appropriate venue to fully link EE to procurement.*

Parties steeped in the minutiae of EE seem oblivious to the fact that CAISO is absent from EE venues and CAISO's concerns are virtually irrelevant to them. EM&V

[9] OBF has already been established as a workable mechanism, and utilities have already modified their IT systems to accommodate it, so it would be relatively easy to extend to other customers.

does not yet correlate EE with substations, which is what governs procurement planners and CAISO's deliberations about local reliability, transmission and generation.

Clearly, WEM's proposal to make EE eligible to bid in procurement Requests for Offers (RFOs) exists OUTSIDE of the world of EE proceedings and goals set in those proceedings.

Perhaps the utilities seek to blur or otherwise obfuscate that insight by excising particular passages of testimony. They certainly hope to shorten the discussion of nuclear power plants.

Nuclear power plants generate uncertainty in every aspect of our lives

It is California's problem — and CPUC's duty — to make sure utilities maintain grid reliability at a just and reasonable cost to ratepayers.[10] The Commission is supposed to consider issues of "uncertainty" in regard to the timing and availability of resources in utilities' procurement plans.

These were exactly the issues that WEM identified and defined narrowly in regard to nuclear power, as required by the OIR. *The Motion falsely alleged that WEM is recommending a "broad inquiry into the safety and benefits of continued operation of California's nuclear facilities."* Motion, p. 3.

On the contrary, WEM believes the issues are quite obvious and any inquiry should be brief. What we propose is ACTION – sensible, practical action, on a fast timeline - exactly what this phase of this LTPP proceeding proposes to deliver.

Because of extreme uncertainty regarding nuclear reliability and procurement costs, which we described in our testimony and discuss further below, WEM's testimony recommended tackling the nuclear shutdown and replacement issues now, in this track of this proceeding, so that SONGs and Diablo could be shut down in an orderly way in the next few months.

We also recommended that the Commission take care of the changes necessary to make EE eligible to do the job that it is eminently qualified to do – replace nuclear power

[10] These responsibilities exist independently of nuclear safety questions, which are in the exclusive realm of the Nuclear Regulatory Commission.

— and in so doing provide greater reliability for the grid as well as financial viability for the NPP owner, as EE has done elsewhere in the past.

A few lessons from Fukushima

Fukushima reminds us that the reliability of the grid is highly uncertain if nuclear power plants (NPPs) are hooked up to it. This is especially true in a land of earthquakes, but is true everywhere on a planet where unexpected human error and equipment failure are always a possibility.[11]

The record of high capacity factor for California's nuclear power plants (i.e. running 24/7 virtually all the time — when they're online) may lull people into ignoring these problems. But it's troubling to look at the recent three-year period when nuclear power was frequently unavailable: the use of coal power went up dramatically, and gas power increased also. This is visible in WEM's table, below:

Table 1. WEM Analysis California Power Mix during Nuclear Outages

% CA Power Mix	2006	2007	2008
Eligible Renewable	5%	10%	2%
Coal	29%	32%	34%
Large Hydro	31%	24%	18%
Natural Gas	25%	31%	42%
Nuclear	<1%	3%	5%
Other	0%	0%	0%
Total	100%	100%	100%

Source PG&E bill inserts, Aug. 2007, Nov. 2008, and Aug. 2009[12]

There were mostly PLANNED outages for retrofits and refueling in those years.

For an UNPLANNED nuclear outage, in an accident scenario, all bets are off on the reliability of the grid. (More analysis than NRC deemed necessary in this area would have been useful.)

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[11] Add to that cost-cutting; deferred maintenance; and increasing investor share by reducing the staff.. Reduced safety regulations may also be a problem, although these are not our concern here because these are administered solely by the NRC.

[12] PG&E Power Content Label Aug. 2007 (listed actual 2006 CA Power Mix): http://www.pge.com/myhome/myaccount/explanationofbill/billinserts/previous/2007/aug.shtml Nov. 2008 (listed actual 2007): http://www.pge.com/myhome/myaccount/explanationofbill/billinserts/previous/2008/november.shtml Aug. 2009 (listed actual 2008): http://www.pge.com/myhome/myaccount/explanationofbill/billinserts/previous/2009/august.shtml

There is the problem of replacing the big chunks of power that the nukes provided, and there could also be problems providing off-site power for the essential cooling systems of the NPP itself.

The NRC assumed that if there are multiple reactors, one of them would be able to power the other — but if both are offline, as all six are at Fukushima, they require power from the grid or other sources to keep from deteriorating further.

Just a few days ago, May 18th the Japanese news media revealed that things went very wrong very quickly in those first few hours of the first day at Fukushima Daiichi, March 11-12, ten weeks ago. Grid reliability was compromised. TEPCO lost offsite power immediately from the quake; it lost the diesel backups an hour later in the tsunami. After that TEPCO experts assumed they had eight hrs. of backup battery power, but that turned out to be over-optimistic.[13]

This scenario could occur at California NPPs if there were a series of human errors, an attack of some sort that disabled the NPPs, or if we were hit by a sufficiently powerful earthquake and tsunami — which is in the realm of possibilities as we understand them today.[14]

For example, the diesel backups might be unavailable e.g. if they run out of fuel; or fail to start, as often happens in random tests; or become disabled as they were by the tsunami in Fukushima. The backup batteries might die long before other supplies could be hooked up — as they did in Fukushima, in part due to roads that were impassable because of the earthquake and tsunami.

The Commission should consider potential difficulties bringing workers and supplies to San Onofre and Diablo in a disaster scenario, which may be needed to restore power and protect grid reliability, as it was in Japan. (Such issues should have been thoroughly modeled in emergency planning but were not, as we discuss further below.)

Lack of grid reliability could create more desperation in the community from lack of power, like we've seen in Japan in areas formerly served by Fukushima Daiichi, where emergency shelters and hospitals lack reliable electricity even as they struggle to serve

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[13] It now appears that the quake itself may have cracked one or more of the pools and reactor containment vessels and broken key cooling pipes and valves; previously these were thought to be intact until the explosions. Fuel in the pools was scrambled by the earthquake(s), the explosions, the meltdowns, or all of the above.

[14] Seismic activity appears to be increasing at an unusual rate.

people whose homes were either destroyed by the earthquake/ tsunami or are no longer habitable because they're in the radioactive exclusion zone around the power plant.

Reactor reliability problems on a good day

The Commission is supposed to consider issues of "uncertainty" in this proceeding.[15] PG&E's Testimony on nuclear power filed in its recent General Rate Case demonstrated that key components need to be replaced — including the Process Control System *(which monitors and controls conditions inside the reactor)*.[16]

GRC documents indicate that essential parts are no longer available. PG&E's testimony envisioned ways to get around this, and assumed that there would be plenty of time to do it. 2011 GRC, PG&E-5, p. 4-15. This could prove to be mistaken.

Deferred maintenance at Diablo Canyon could have a profound impact on grid reliability and costs, which the Commission should consider as soon as possible, i.e. in this LTPP track 2.

It is urgent for this procurement docket to consider the amount of time the Diablo reactors might be offline in order to retrofit these parts. It should also consider the possibility that one or more parts would break unexpectedly and would require reactor shutdown for an extended period in order for a manufacturer to be located who could gear up to provide a replacement.

The Commission should also consider that two of the items that need replacement could create disastrous emergency reliability issues and costs if they break prematurely; see the passages below from the 2011 GRC, PG&E Testimony Vol. 5, pp. 4-15 – 17:

> 12 The Westinghouse Hagan 7100 Process Control System
> 13 (PCS) equipment is original plant equipment which has become
> 14 **antiquated and obsolete.** The system is based on 1970s analog
> 15 technology that is **difficult to maintain.** <u>The PCS **converts**</u>
> <u>**16 physical plant parameters such as temperature, pressure, level,**</u>
> <u>**17 and flow into electrical signals. These signals are used for plant**</u>
> <u>**18 control, remote process indication, and computer monitoring.**</u>

Hmmmm. *This "antiquated, obsolete" equipment is responsible for monitoring and controlling key aspects of the reactor's cooling system and its shutdown capabilities*.

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[15] fn - The uncertainty of IOUs meeting the EE goals (or the virtual certainty that they won't meet them) is also something which needs to be considered…

[16] PG&E 2011 GRC Testimony, Exhibit PG&E-5, Energy Supply, Chapter 4, Nuclear Operations Costs; A0912020.

How quaint! But this is a *nuclear reactor*. Is there some reason why PG&E didn't replace this Process Control System long ago? The automobile industry began using digital rather than analog technology at least fifteen years ago for equipment that has such a critical role in decision-making and operations.

> 19 These original analog controls, vintage 1970, are no longer
> 20 manufactured and there is not a sufficiently large owners' group
> 21 in the nuclear industry to help with remanufacturing these
> 22 controls. The new design will remove and replace the existing
> 23 equipment in the control racks…

It would certainly be a challenge to get all the way into the core of a reactor and replace such a key system in a rack of reactor control rods. No wonder they put it off.

Then again, it could be far worse. Imagine what it would be like to have to do even part of such a retrofit in the midst of an accident? Just recently, TEPCO sent workers inside one of the reactor buildings in Fukushima to try to install some makeshift monitoring equipment. After a whole month of driving blind, having only the haziest idea of what was going on in there, they were desperate to get a look inside the reactor containment to see what was left of the fuel rods. To do this, workers had to go into the reactor in shifts. They got a year's dose of radiation in just a few minutes.[17]

> 27 …The new system will be built into the existing
> 28 control racks which will be physically modified as required to
> 29 accommodate mounting of the equipment and **seismic**
> **30 qualification of the racks.**

Hmmm – [would have been good to ask this in hearings…] — are the racks "seismically qualified" today? What would that mean? See below, *PG&E and SCE attempt to seriously mislead the Commission with false references, p. 20*.

> New Auto/Manual hand stations will
> 31 be installed at both the control room vertical boards and the hot
> 32 shutdown panel….

That's reassuring. But the next paragraph raises new worries:

> This project is being done in conjunction with

[17] People have been asking, *why can't they do this sort of thing w/ robots?* Well, it turns out robots don't like radiation either, especially the intense heat. And how many robots can climb over rubble and not get stuck?

> 33 Eagle 21 replacement (referred to below) …
> 1 …This project will address the **Auxiliary**
> **2 Feedwater (AFW) controls** that are **currently experiencing**
> **3 performance challenges status along with many other**
> **4 obsolescence and maintenance issues.**

Wait! The ***Auxiliary Feedwater Controls?*** They are "currently experiencing **performance challenges?**" **currently?** along with "many other obsolescence and maintenance issues?" What exactly does this mean? When would Auxiliary Feedwater Controls be needed? Don't they ensure critical backup water supply for the cooling system? For example, if the AFW had been working at Fukushima Daichii would TEPCO have been able to avoid the expense of helicopters dumping seawater into the reactors, and barges sent by the United States with millions of gallons of freshwater for dry as death reactors?[18]

> 6 (b) **Eagle 21 Replacement**
> 7 When Eagle 21 was installed in 1994, it replaced some of
> 8 the Hagan 7100 Process Control modules. The control racks
> 9 and control board still contain many of these old analog
> 10 modules. There are also Fischer modules for AFW and
> 11 Condenser Hotwell Level Control that are obsolete. The Hagan
> 12 and Fischer modules are **approaching end of life and are very**
> **13 hard to work on because of the older technology and**
> **14 obsolescence of parts.** They currently have **several issues that**
> **15 cannot be resolved by either PG&E or Westinghouse.** In order
> 16 to replace these systems with a digital platform, a Diversity and
> 17 Defense in Depth analysis must be performed. **This project is a**
> **18 multi-year project which will require a License Amendment**
> **19 Request (LAR) to be submitted to the NRC. Currently the**
> **20 estimated review time for an LAR is two years.** It is PG&E's
> 21 intent to replace the old systems with a current common
> 22 platform based on the I&C Long-Term Strategy to increase
> 23 reliability, reduce maintenance, and increase safety of the plant.
> PG&E-5, pp. 4-15 – 4-16 (emphasis added).

In WEM's view, it is unconscionable that the Company would even consider running a nuclear plant for one more day with issues like these. Are we overreacting?

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[18] What does it say about the world's priorities and the fragility of a power system dependent on nuclear reactors that the U.S. sent freshwater barges for reactors *but not for thirsty people who were deprived of water due in part to lack of power for water pumps, or who were forced to drink radioactive water?*

Let's try this analogy — even though there is nothing in the world that's really analogous to a nuclear power plant – but let's just say you had a 1970's model automobile and you knew that key parts of the steering apparatus and brakes were obsolete and had been behaving badly but the dealer could no longer fix them and the manufacturer had changed hands since then and wasn't willing to be helpful.

Would you be driving that car on a superhighway?

Leaving aside the safety problems – over at NRC — what sorts of transportation reliability problems would you face if you had to spend two years just getting approval to take your jalopy to the shop? And who knows how much longer it would take to install the new parts and make sure they work with all the other old stuff?

Setting aside the costs of replacing these parts (which in PG&E's case are decided in the GRC), what would it cost you to rent or buy another car while all these things are being handled — and then what would you do with that vehicle when the old clunker is ready to go back on the road?

And what if you had postponed all those repairs, and happened to be driving your jalopy down the coast highway when an earthquake and tsunami hit?

Note, WEM's concern here is cost, and grid reliability.

We are clear that the NRC, not CPUC, oversees nuclear safety issues.

PG&E risks grid disruptions and great costs from earthquakes and tsunamis

WEM would like to ask PG&E the following questions (and ask similar questions of SCE in regard to SONGs):

1. What are the possible consequences, including costs and grid reliability, if either or both of the ***Westinghouse Hagan 7100 Process Control System*** and/or the ***Auxiliary Feedwater Controls*** fail to work when they are needed, (a) during normal operations, or (b) during an earthquake/ tsunami on the order of Fukushima?

2. Would the consequences possibly include having to flood a reactor with seawater to keep it cool, as in Fukushima? If so, once Diablo had been cooled with seawater, could it ever be used again as a power source?[19]

[19] Experts discussing TEPCO's actions and inactions at Fukushima Daiichi have noted that the company's concern for *maintaining an image of reliability* may have caused them to fail to vent the reactors sooner (which might have prevented explosions). Even more related to our procurement concerns in this

3. If not, what would it cost to rebuild Diablo, especially if the site were radioactive? Would this even be possible?

4. If both reactors were offline at Diablo, and the grid were temporarily disconnected, how much offsite power and GHG emissions would be needed to restore power to the NPPs and/or provide improvised cooling operations such as those at Fukushima (throughout the entire period starting March 11, 2011 and continuing for another six months or more)? At what cost? (Include among other things the cost and GHG emissions of helicopters; barges; fire engines and other vehicles; as well as the cost of experts to plan these services and people to provide them; plus perhaps settlements with families of workers who die or are disabled by this work…)

5. Does PG&E's secret "hedging plan" include any or all of these eventualities?

6. Would nuclear fuel stockpiled for Diablo possibly lose some of its value in such a scenario?

7. What is PG&E's justification for deferred maintenance of these critical systems? Why weren't they replaced when PG&E first began having "maintenance issues" and knew they were "obsolete?"

8. Did PG&E choose to keep Diablo running, *to foster an illusion of "reliability"* and low costs in the short term — thereby risking a much greater loss of reliability and catastrophic costs in the long-term?

9. Were PG&E's reckless disregard for reliability and costs influenced by the limited liability of NPP owners, based on the Price-Anderson Act? Do PG&E's calculations include costs that would be borne by taxpayers of the State of California and the United States?

WEM's Testimony and our further discussion in this Response demonstrate that regardless of NRC's failure to review earthquakes and tsunamis in relation to nuclear power plant safety, there are separate issues of grid reliability and costs related to nuclear power that are at issue here in this procurement proceeding, and the impacts of earthquakes and tsunamis are relevant to these issues as well.

To preserve reliability and prevent undue costs, the Commission should order the utilities to close the reactors while it conducts a review.

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proceeding, TEPCO hesitated pouring seawater into the reactors because the chemical interactions of cold saltwater with reactor materials and fuel rods would mean they would never again be able to generate power from these expensive investments.

PG&E and SCE attempt to seriously mislead the Commission with false references

In January1985, Commissioner James Asselstine, a member of the Nuclear Regulatory Commission (NRC), leaked transcripts to KRON-TV of three closed, secret NRC meetings held in the summer of 1984 — 27 years ago — shortly before issuing a license for Diablo Canyon.

WEM offers brief excerpts from these deliberations (below) first of all to make sure everyone understands that NRC decided, in the words of its Chair that, "the NRC's regulations should not be interpreted to require a specific review of the effects of earthquakes on emergency planning"[20] and therefore none was done during licensing proceedings for either SONGs or Diablo.

The Motion falsely states:

> WEM's claims that "neither earthquakes nor tsunamis" were explored during the licensing process for SONGS 2 & 3 or DCPP. (WEM testimony, p. 9.) This is untrue, which a review of the NRC's regulations that governed the licensing of nuclear power plants (10 CFR Part 50), or a review of the existing licenses of either SONGS 2 & 3 or DCPP would have indicated. Motion, p. 3, fn. 5.

Once again, the Motion fails to provide page references — either to the supposed passages in the NRC's regulations, or the SONGs and DCPP licenses. *That's because these documents prove that WEM is correct and the Motion is lying.*

Leaked transcripts of NRC hearings showed that it failed to review earthquakes

In these long-ago meetings, the Commissioners and their lawyers discussed why and how they would avoid ordering earthquake studies as a condition to licensing Diablo Canyon. Chairman Paladino recalled what they did at SONGs:

> "*Well, our decision on San Onofre was that our rules don't require that we consider earthquakes…* Is that a feasible approach to say, we reviewed San Onofre and here is why we think it applies to Diablo Canyon?" Transcript of NRC meeting, July 25, 1984, pp. 52, 58.

NRC's lawyer, Mr. Trubach replied: "Well, there is nothing in the record of San Onofre either..." But he thought he could finesse that: "It was really founded on an implicit but factual finding that earthquakes were not going to be important." Ibid, p. 59.

The Commission discussed this further at the next meeting:

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[20] Transcript of NRC meeting, July 25, 1984, p. 26.

CHAIRMAN PALLADINO: We are taking cognizance [of this issue] by saying such things as, ***earthquakes are really no worse than fog or whatever.*** Transcript of NRC meeting, July 30, 1984, p. 14.

MR. TRUBACH: "What we are trying to do here is to read the regulations to say that the Commission doesn't look at (earthquakes) and explain why. In other words, **we are trying to make it not material to the licensing process.** Ibid, p. 16.

MR. TRUBACH: ...**In the San Onofre proceeding the staff had said... you should look at the effects of earthquakes on emergency planning. That's an interpretation of the regulations the Commission then chose not to endorse.** But it's something the Commission has to explain why it didn't accept the technical staff's expert judgment. Ibid, p. 20.

MR. TRUBACH: Basically, the commission is saying that **on a generic basis it has determined that earthquakes are sufficiently different from other natural phenomena so that the rules will not be read to require it**, which is different from saying 'Well, the Commission considers all kinds of natural phenomena, some in more detail than others, and on earthquakes less in detail because it's kind of subsumed in the consideration given to the others.' Ibid, p. 26.

CHAIRMAIN PALADINO: ***... the NRC's regulations should not be interpreted to require a specific review of the effects of earthquakes on emergency planning. Ibid, p. 26.***

COMMISSIONER ASSELSTINE: ... I find it disturbing that we're starting out with the proposition that, 'What we're trying to do here is reach a certain outcome, and what is it that we have to do in order to reach that outcome?' I am not pleased about the outcome either, but it does seem to me that the right question to be asking first and foremost is, 'Was San Onofre right or was it wrong?' Ibid, p. 42.

CHAIRMAN PALLADINO: Well, but the probabilities are much lower.
COMMISSIONER ASSELSTINE: Well, but the whole rationale for emergency planning to start with is that you plan for just those kinds of improbable events. Ibid, p. 43.

CHAIRMAN PALLADINO: **The probability of the radiological release and an earthquake... is so small as to be negligible.** Ibid, p. 51.

At the third hearing, they really got down to business:

COMMISSIONER ZECH: "***... it seems to me that we kind of have a responsibility, as Commissioners, to put out some kind of generic rulemaking, widely acceptable, perhaps not as definitive as we would like to make it, but some guidance that earthquakes are to be considered in emergency planning.***"

> COMMISSIONER ASSELSTINE: Why don't you do both?.... the case-specific determination in this case... and, in addition to that, start a generic rulemaking to look at it nationwide -- to cover your bets?
> COMMISSIONER ROBERTS: ***Well, that really makes us look stupid.***
> Transcript of NRC closed meeting 8/3/93, p. 38.

> MR. TRUBACH: I think the judges are going to look at the Commission's decision and say, 'It is just incredible for you to stand there and tell me, Counsel, that the Commission does not look at the effect of earthquakes on emergency planning in California. Ibid, p. 72.

> MR. TRUBACH: But as far as we can tell, it was never litigated. The Board never really gave anyone a shot at anything to do with earthquakes as they affect emergency planning. Ibid, p. 74.

> MR. MALSCH: NUREG-0654 says you ought to look at emergency conditions.
> MR. TRUBACH: It specifically calls out meteorologic phenomena.
> CHAIRMAN PALLADINO: And does it say anything about earthquakes?
> COMMISSIONER BERNTHAL: No, it's silent. Ibid, p. 78.

> CHAIRMAN PALLADINO: Well, I'd like to give General Counsel a suggestion on a why-we-goofed type of statement. I'll also give you a copy, and then you can feed back. I'm trying to go on vacation.
> COMMISSIONER BERNTHAL: Yes, me, too. Ibid, p. 86.

So there you have it. The NRC felt it wasn't necessary to review the potential effects of earthquakes on either San Onofre or Diablo. In a decision written by Judge Robert Bork, the DC Court of Appeals backed the NRC's decision 5-4, denying a suit by Mothers for Peace.

The Majority opinion confirmed that, "The NRC was not required by its regulations to consider the potential complication effects of earthquakes on emergency planning in its decision to license Diablo Canyon." Bork's opinion included a denial for a request that the court examine the leaked transcripts, saying, "Judicial examination of these transcripts would represent an extraordinary intrusion into the realm of the agency." And yet, Bork added a flourish that the NRC left out, stating "The probability that the two events (an earthquake and a nuclear accident) will occur contemporaneously in a single week during the life of the plant is approximately one in 6.5 million.'" This estimate came from an off-the-record PG&E report, not the NRC.[21]

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[21] Communication from Abalone Clearinghouse; citations pending.

The US Supreme Court refused to hear the case, letting the appeals decision stand.

Today, in May, 2011, PG&E and Edison are willing to risk being caught in a bald-faced lie to the Commission, trying to cover up what really happened.

WEM asks the ALJ and parties to consider, should this Commission take its cue from the NRC and ignore these issues? Or should it take a more responsible approach, given what we have all learned in the past 27 years, especially from Fukushima?

Conclusion

Anybody who's ever owned a really old car knows that there comes a point when the cost of repairs becomes unmanageable (and in some cases practically impossible since parts are no longer available). Replacing things one by one is far more expensive than starting from scratch with a different kind of car (and more trouble than taking public transit).

The trick is to notice the signal – when what might seem like a relatively small repair is actually just the beginning of a cascade of problems. In the end, you might be too poor to afford any transportation; you might even be grateful if you can still walk.

It's tempting to keep going, especially if you just sank a pretty penny in it for something else, like a new radiator (i.e. a non-steam generator), but you'll look back and see that this was exactly where you needed to pull back and send this old jalopy to its final resting place – lest you find yourself stranded at midnight on a snowy mountain road with a fire in your engine compartment and your precious granddaughter screaming in terror in her car-seat. Or worse still, you're careening off a cliff – was it the steering? Or the brakes that failed? You'll never know. In that extra-long second before impact, will you be glad you saved money? Will you still pretend your old ride was reliable?

Ten days ago the prime minister of Japan began to pull the plug on nukes. He cancelled the plan for Japan to get 50% of its energy from NPPs, and pledged to start from scratch with renewables. Imagine how he must wish he had made that decision January 10th instead of May 10th and had started by spending what was necessary to close down Fukushima Daiichi 1-6 first, because they were among the nukes most vulnerable to earthquakes and tsunamis?

Would TEPCO – and Japan itself — possibly be in better financial shape today?

California is still in the enviable position of being able to make the right decision early enough to avoid terrible tragedy and long-term reliability problems on the grid. We should seize this opportunity now; it could end in an instant.

While utility executives and lawyers are paid handsomely to ignore their feelings and work for the greater good of the shareholders, they might want to consider that the shareholders too would benefit from closing the nukes. And finally, judges and commissioners may not like being put on the spot — but they'll go down in history as heroes if they ignore the pressure to pass the buck.

If only. These are the words no one wants to say – or hear.

Dated: May 23, 2011

Respectfully Submitted,

/s/ Barbara George

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CERTIFICATION OF SERVICE

R1005006

I, Barbara George, certify that on this day May 23, 2011 I caused copies of the attached WOMEN'S ENERGY MATTERS RESPONSE TO PG&E/SCE MOTION TO STRIKE to be served on all parties by emailing a copy to all parties identified on the electronic service list provided by the California Public Utilities Commission for this proceeding, and also by efiling at the CPUC Docket office, and mailing a copy to ALJ Peter Allen and Assigned Commissioner Michael Peevey.

Dated: May 23, 2011 at Fairfax, California.

/s/ Barbara George

DECLARANT

(Electronic service List attached to original only)

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