



ALLIANCE FOR NUCLEAR RESPONSIBILITY

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Statement of Rochelle Becker before the Senate Energy Committee hearing—
After Japan: Nuclear power plant safety in California, April 14, 2011

A BRIEF HISTORY OF CALIFORNIA'S NUCLEAR REACTOR OVERSIGHT: A REGULATORY TIMELINE WITH RECOMMENDATIONS FOR THE PRESENT

I am Rochelle Becker, and from 2005 to the present I have been the executive director of the Alliance for Nuclear Responsibility. For over two decades prior to that I was spokesperson for the San Luis Obispo Mothers for Peace and active in all the licensing and California Public Utilities Commission proceedings for the Diablo Canyon Nuclear Power Plant. As an energy consumer advocate, I have been on the board of TURN-The Utility Reform Network—for nearly two decades and was the board president during California's tumultuous deregulation-driven energy crisis.

I am here today listed as a speaker discussing “community” issues, and while this is a “community” issue, given my background and experience as outlined above, I believe the correct term should be “consumer” issues. It is as ratepayers that we in California have our only jurisdiction over nuclear power. In fact, the very title of today's hearing, “After Japan: Nuclear power plant safety in California” seem to be misnomer, as the issue of “safety” is one on which our state is pre-empted by the federal NRC. Given that, by a 1983 U.S. Supreme Court decision states have the right to determine the reliability and economics of their electricity generation sources, it is puzzling that other witnesses do not include members of our state's Energy Commission or, in the case of the relicensing of Diablo Canyon, the state's Coastal Commission—the only state regulator with federal equivalency in issuing a coastal development permit for the plant.

As consumers, it is our contention—and as the following history I will summarize bears out—that when our state has abdicated its jurisdictional and regulatory authority and relied on the assurances and certifications of the utilities and the NRC, consumers and ratepayers—residential and commercial—have borne an exorbitant cost. Most of these costs overruns--\$ 4.4 billion in the case of Diablo Canyon—were directly attributable to seismic negligence by PG&E, faulty oversight of the NRC, and failure of the CPUC to safeguard ratepayer interests. As outrageous as those overruns were, they pale in light of the \$ 23.6 billion in damage claims JP Morgan reports are being leveled at TEPCO in the wake of Fukushima. Bear in mind that in the US, the Price-Anderson act caps liability for nuclear claims at \$12 billion. Who would pay the difference if it had happened here? Japanese factories are idled now not only because of radioactive releases but because there is no electricity to run them. How would an incident on our shores financially cripple California's already precarious economy? As consumers, we deserve to know.

As license renewal proceedings for Diablo Canyon and San Onofre nuclear reactors are underway or on the horizon, ratepayers and regulators should be aware of past and recent history.

- In 1967, the California Public Utilities Commission (CPUC) issued a Certificate of Public Convenience and Necessity (CPCN) for PG&E's Diablo Canyon reactor on the basis of representations made by the utility that the site was free from significant earthquake faulting and that the nearest faults were 20 to 50 miles away.¹ In an Atomic Energy Commission memo from April, 1967, regarding the analysis of PG&E'S seismologist Dr. Jahns, it is written: "Thus Dr. Jahns concludes that the present proposed location is adequate. They do not intend to do further trenching at the risk of uncovering geologic structures which could lead to additional speculation and possible delay the project."²
- In 1975, construction of the plants—which are designed to withstand .4g of ground motion in an earthquake—is nearly complete. The Hosgri fault has been discovered offshore and the NRC believes the USGS will assign a value of .5g, to which the structural design can be adapted and accepted. In a meeting memo of January 12, 1976, the NRC writes: "...we were surprised by a USGS report for the site that concluded that an acceleration of 0.5g was in its opinion inadequate for the site on the basis of present information." Failing to scientifically convince the USGS to change their findings, the NRC outlines a program to "...assume the USGS, at the reviewer level, would remain adamant and seek other means to confirm or modify its finding," and concludes "In view of the seriousness of the problem, it is essential that strong Regulatory management be imposed immediately to "manage" the team of consultants and the probability task force. These managers should be of the highest level managers that we can practically assign to the tasks."³
- In 1980 the CPUC rules that a new CPCN was not required after the discovery of an active fault capable of a 7.5M earthquake less than 3 miles from the reactors. This ruling was followed by the infamous "reverse blueprint error" in which the reactors needed to be retrofitted, the first retraction of an NRC operating license, and an estimated \$4.4 billion in cost overruns attributed to seismic miscalculations.⁴
- In March, 1982, in a 3 to 2 decision, the NRC approves of Diablo Canyon's seismic design on the basis of an obscure and untested theory by a Japanese seismologist, to which the dissenting commissioners write, "The Board's reasoning on the "tau effect," for example, may be cited in future cases when an applicant or licensee would otherwise have difficulty in complying with our regulations...Altogether, we cannot escape the impression that the Commission is declining review not because the opinion is essentially sound, but because it is unsound and the prospect of reviewing it so unsettling."⁵

¹ CPUC Decision 73278, Application No. 49051 (November 7, 1967) pp. 41-42

² Boyd, R.S., Minutes of meeting between PG&E, Westinghouse and AEC, May 18, 1967

³ A Proposed Program for Diablo Canyon Discussed at an Internal Staff Meeting, January 12, 1976, Appendix D, attachment 7

⁴ Prehearing Brief of the Public Utilities Commission Division of Ratepayer Advocates 6/20/1988

⁵ Opinion of Commissioners Gilinsky and Bradford on Commission review of ALAB 644 (Diablo Canyon Seismic Proceeding) Docket Nos. 50-275 OL; 50-323 OL

- In 1987 the Public Staff Division of the CPUC recommends that \$4.4 billion dollars of Diablo Canyon’s \$5.7 billion cost be disallowed for seismic negligence. In a hearing held on June 9, 1987 before this very same body, the Senate Committee on Energy and Public Utilities, the following exchange took place between Assemblywoman Gwen Moore and Edward O’Neil of the CPUC Public Staff:
MR. O’NEIL: “...We, unfortunately for better or worse, relied on PG&E’s representations concerning the geology of the vicinity. And that proved to be inaccurate and misleading in a number of respects. We issued a certificate based on PG&E’s representations that the site was geologically suitable for the plant and that the plant was properly designed. And as we all know now, that was incorrect information. I might add the NRC had the same problem with PG&E. They issued a permit and they relied on PG&E. They relied on PG&E’s geo-seismic studies. So neither the NRC or PUC went out and did their own studies...
MS. MOORE: “I guess the real concern I have is that if you had the responsibility of overseeing the project, and I guess the protection of the People of the State, it would appear to me that your responsibility would certainly lead you to verification of that which you are endorsing.”⁶
- In 1988, in spite of the above testimony, a settlement brokered by Attorney General John Van De Kamp between PG&E and CPUC places the entire \$4.4 billion seismic cost overrun entirely onto the ratepayers. There was no review of reasonableness and prudence for the design cost overruns.
- In 2006, AB 1632 is enacted requiring the California Energy Commission to: “...determine the potential vulnerability, to a major disruption due to aging or a major seismic event, of large baseload generation facilities of 1,700 megawatts or greater...” The bill would also require the commission, “...in absence of a long-term nuclear waste storage facility, to assess the potential state and local costs and impacts associated with accumulating waste at California’s nuclear powerplants...”
- In 2007, The CPUC, in granting ratepayer funding for PG&E to conduct a *feasibility study* of relicensing Diablo Canyon, specifically requires the application to include all the seismic studies recommended in “the CEC’s AB 1632 Assessment.”⁷
- In 2008, the CEC releases the AB 1632 analysis, recommending advanced 3-D and other seismologic techniques to be used for updated studies on all faulting in the vicinity of Diablo Canyon.⁸ That day, PG&E announces that the USGS has located a new active fault, the “Shoreline” fault, within 1800 feet of the plant.
- In November 2009, PG&E files an application with the NRC to relicense Diablo Canyon. The federal NRC relicensing process does not require any of the studies recommended by AB 1632 be completed.

⁶ California Legislature, Senate Committee on Energy and Public Utilities, Subject: Diablo Canyon Nuclear Plant, Joint Hearing, June 9, 1987, transcript, p.6.

⁷ Decision 07-03-044 at Ordering Paragraph 10. March 15, 2007

⁸ An Assessment of California’s Nuclear Power Plants: AB 1632 (November 2008 CEC-100-2008-009-CM) pp. 6-7.

- In January 2010, PG&E files with the CPUC for ratepayer funding for the NRC license renewal process. Their application does not include all AB 1632 required seismic studies and 3-D seismic mapping—which the utility plans to complete by 2014—almost *two years after* the NRC concludes *they* can grant their federal license (by May 2012). The application to the CPUC does not include *updated* “lessons learned” from the 2007 Kashiwazaki earthquake that knocked 8000MW of generation off-line in 90 seconds at a cost of over \$12 billion to date in repairs and replacement power. The assigned judge sets hearings for April 13, 2011 regarding the completion of AB 1632 studies.
- In March 2011, a magnitude 9.0 earthquake in northern Japan exceeds design basis for the Fukushima nuclear power plant complex, disabling four units and leading to partial meltdown conditions and offsite releases of radiation to the air and water that continue to this day. In the next 30 days, initial reports of financial losses exceed \$23 billion.

WHAT DOES THIS MEAN FOR CALIFORNIA'S FUTURE?

1. Consumers have no reason to trust assurances of seismic safety from PG&E, NRC or the CPUC. Their past histories demonstrate the need for independent peer review and verification by the state regulators regarding seismic hazards and potential costs for California ratepayers. The CEC, CCC and legislature have supported this position.
2. AB 1632 first and foremost is concerned with the costs, risks and benefits of relying on California's aging nuclear reactors. While the risks and benefits have been discussed and debated by scientists and energy planners, much less attention has been paid to the economic analysis. In the wake of Fukushima—both the loss of power and the damage claims—the economic consequences for the state and ratepayers cannot be treated as secondary to scientific and technical questions regarding nuclear power and must be re-evaluated.
3. The CPUC failed to adequately provide a just and prudent solution for ratepayers in the 1988 seismic decision. The admission by the Public Staff that they failed to adequately review the seismic data at the time is now disappointingly similar two decades later. As recently as February 2011, the Division of Ratepayer Advocates—the current incarnation of the Public Staff—agreed to a CPUC settlement decision allocating \$80 million ratepayer dollars for PG&E's license renewal proceeding without requiring the completion and independent peer review of the AB 1632 studies. They should be before you here today as their predecessors were in 1987 to explain their decision.
4. The NRC still has no requirement that updated seismic studies be a part of the license renewal process. PG&E's claims continue to be deceptive and misleading. After Fukushima, they stated in the San Luis Obispo TRIBUNE on March 14, 2011 that: “Our geological experts, using state-of-the-art technology, have determined that potential impacts of all nearby faults fall within all design safety margins and that Diablo Canyon remains seismically safe. The study was independently reviewed by the U.S. Geological Survey, and we recently submitted the findings to the NRC.” The U.S. Geological Survey has absolutely stated that they have not

reviewed PG&E's findings. In addition: PG&E had yet to even apply for the permits necessary to conduct the high-energy 3-D seismic mapping recommended by AB 1632 when they made that statement, nor have they applied as of this date. The fact that they have "submitted findings to the NRC" means nothing; the NRC has said its review of those findings is at least a year away, and as the documents from the 1970s demonstrate, cannot be trusted to be free of industry-favorable bias.

5. PG&E's recent claim that they have asked the NRC to "delay the final processing" of the DCCP license renewal application, "such that the renewed operating licenses, if approved, would not be issued until after PG&E has completed the 3-D seismic studies and submitted a report to the NRC addressing the results of those studies" is a disingenuous public relations ploy. It happens that the NRC can't issue any license until the California Coastal Commission issues its federal equivalency approval, and the CCC has requested not only the results of the AB 1632 seismic studies, but additional and more detailed seismic data involving land-based and off-shore faulting. Furthermore, the NRC has stated that updated seismic studies are not a part of their license renewal review.
6. PG&E's application for \$85 million in ratepayer funding for license renewal has been at the CPUC since January 2010. The Alliance for Nuclear Responsibility and co-interveners have maintained that by the CPUC's own directive, "This commission will not be able to adequately and appropriately exercise its authority to fund and oversee Diablo Canyon's license extension without these AB 1632 issues being fully developed."⁹ As recent as their February 2011 testimony in this CPUC case, PG&E has claimed that they will not and are not required to complete these studies prior to receiving ratepayer funding for the license renewal. A week after the Fukushima events, the judge in the CPUC proceeding issued the following statement without comment or explanation: "This Application, now set for evidentiary hearing April 13, 2011, is taken off calendar to be reset on motion of the parties." Multiple requests for clarification from the judge have been unanswered. There is currently no assigned commissioner for this application at the CPUC.¹⁰
7. The Legislature must order the CPUC to return PG&E's application 10-01-022 to the utility as incomplete for failure to include the "full development" of the AB 1632 seismic studies as recommended. No ratepayer funding should be expected or permitted until the utility has fulfilled the mandate of the legislation. This is solely within the jurisdiction of the state of California and has no involvement with the NRC whatsoever.

⁹ Letter from Michael Peevey, President, CPUC to Peter Darbee, CEO, PG&E, June 25, 2009

¹⁰ Administrative Law Judge's Ruling Taking Hearing Off Calendar, Application 10-01-022, March 16, 2011