



**ALLIANCE FOR NUCLEAR RESPONSIBILITY**

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July 19, 2011

California Energy Commission  
Docket Office, MS-4  
Re: Docket No. 11-IEP-1J  
1516 Ninth Street  
Sacramento, CA 95814

<b>DOCKET</b>	
<b>11-IEP-1J</b>	
DATE	<u>JUL 19 2011</u>
RECD.	<u>JUL 19 2011</u>

**RE: Comments and Recommendations of the Alliance for Nuclear Responsibility (A4NR) in response to the Nuclear Power Workshop for the 2011 Integrated Energy Policy Report, Docket 11-IEP-1J**

Commissioners:

The Alliance for Nuclear Responsibility (A4NR) has reviewed the data requests submitted by PG&E and SCE in response to the nuclear power workshop to be held by the CEC as part of the 2011 IEPR.

Comments related to each individual utility are attached to this cover letter as separate documents. However, while the specific comments related to each utility's nuclear operations (SONGS or Diablo Canyon) may differ in detail, the overall scope of our remarks question the inconsistencies, inadequacies, omissions and contradictions to be found in the utility replies.

Nearly three years have passed since the CEC issued its AB 1632 report and recommendations. And yet, for PG&E, the majority of the recommended studies are just beginning and SCE has only just begun the funding requests for their work. A major impetus for the AB 1632 recommendations were the questions of reliability and economics regarding nuclear power in the wake of the 2007 Kashiwazaki nuclear incident as a result of an earthquake. The loss of 8000 MW followed by three years of recovery totaling \$12 billion in repairs and replacement power gave California legislators pause to consider the consequences on our own shores. And yet, our nuclear utilities have made little or no progress on the studies. Now, with the disaster at Fukushima still unfolding, and in the wake of undeniable public outcry, the utilities are finally—if slowly—beginning to consider in earnest the recommendations of the CEC.

It becomes clear, from a ratepayer and consumer point of view, that the absence of any impetus for updated seismic analysis on the part of the federal NRC puts our state at risk in the same way that Japan was; it becomes clear that as residents and ratepayers, it is only to our state regulators

that we can turn in the hope that safeguards for an affordable and reliable supply of electricity will be emplaced.

Upon review of the utility data requests, it appears that three main areas of concern arise:

1. **The ongoing uncertainty regarding final disposal and disposition of the high level radioactive waste created at San Onofre and Diablo Canyon during the initial 40 year operating license and the potential 20 year license renewal.** As the NRC has promulgated a waste confidence ruling increasing the allowable on-site storage of waste for as long as 60 and possibly 100 years after shutdown, questions of responsibility for overseeing the waste and ongoing storage costs need to be evaluated. There is no assurance that fiscal burdens would not leave the state responsible for this unfunded federal mandate. When such questions about the potential costs and liabilities of safeguarding long term waste were asked of the utilities by the CEC, the answers were absent, inadequate or contradictory.

Earlier this year the states of Vermont, Connecticut and New York sued the Nuclear Regulatory Commission, challenging the waste confidence ruling. The three states argued that the policy, adopted in December [2010], violated two federal laws requiring that a full environmental review be carried out at each nuclear site before permission for long-term storage could be granted.<sup>1</sup> Congresswoman Capps (D-Central Coast) sent a similar letter in January 2010 and several California legislators, sent their own letters of concern.

Is California's seismically active storage site any less at risk? Do Californians not deserve the same assurances sought by the northeastern states? On February 25, 2011, state legislators from all communities (Humboldt, San Diego, Sacramento and San Luis Obispo) that are storing waste sent a letter to the Blue Ribbon Commission stating:

As the Blue Ribbon Commission prepares the draft report, which will include considerations of technology and policy alternatives, it is our hope that the unique issues surrounding nuclear power and waste storage & disposal in seismically active California are considered. We believe that a California hearing that includes testimony from seismic experts and local stakeholders would greatly assist in the preparation of the report.<sup>2</sup>

When the Blue Ribbon Commission issued its report, specific references to California or seismic issues were nowhere to be found, with the sole exception of an update on Fukushima.<sup>3</sup> The Japanese are now considering closure of their ill-fated reprocessing plant. "Science minister Yoshiaki Takaki indicated Friday that the government will consider suspending the development of the prototype fast-breeder reactor Monju in the wake of the country's worst nuclear crisis that continues at the Fukushima Daiichi power plant."<sup>4</sup>

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<sup>1</sup> <http://www.nytimes.com/2011/02/16/nyregion/16nuke.html>

<sup>2</sup> <http://a4nr.org/wp-content/uploads/2011/03/022511-BRC-ltr-Blakeslee1.pdf>

<sup>3</sup> [http://brc.gov/sites/default/files/documents/draft\\_ts\\_report\\_6-1-11.pdf](http://brc.gov/sites/default/files/documents/draft_ts_report_6-1-11.pdf)

<sup>4</sup> <http://nuclear-news.net/2011/07/15/japan-might-suspend-developing-its-troubled-fast-breeder-reactor/>

After decades of debate the Yucca Mountain remains in scientific and political limbo. In the meantime California's fragile coast has become the de facto radioactive storage facility for 1856 metric tons of uranium (3082 in spent fuel pools today and 4330 by end of license) at Diablo and 2450 spent fuel assemblies at San Onofre (unlike PG&E, SCE appears to consider the disclosure of the metric tonnage of uranium in its pools as "classified")<sup>5</sup>

The Alliance for Nuclear Responsibility is not a proponent of costly and lengthy lawsuits to resolve the federal radioactive waste problem. The 1982 Nuclear Waste Policy Act is a promise that thousands of tons of radioactive material will be removed from our fragile coast, and have collected of tens of millions from ratepayers in the hope of fulfilling this promise. Absent a national policy, the federal government needs to explain this unfunded mandate – a mandate that leaves California's economy and the reliability of our energy sources at risk—or we will pursue a plan to phase-out the source of the radioactive waste.

**2. Issues of liability arising from a nuclear accident a la Fukushima.** The federal government has not begun to consider updating the liability limits under Price-Anderson (\$12.6 billion). in light of damage estimates that exceed \$100 billion in Japan. While the government of Japan is still reeling from the March 11, 2011 nuclear nightmare at Fukushima reports of damages and liabilities have begun to surface. Tens of thousands of damage claims have been filed totaling over \$25 billion and the Japanese government is estimating over \$100 billion in liabilities. The costs are not remotely finalized, but the woefully inadequate \$12.6 billion limit of the federal government's Price-Anderson Act demands immediate review. For example, with regard to the potential liabilities surrounding Diablo Canyon:

San Luis Obispo Agricultural values in 2009 were in nearly \$400 million, with an additional \$52 million for cattle.<sup>6</sup>

San Luis Obispo home sales are still averaging \$450,000 and total assessments of property values in 2010 was in excess of \$40 billion.<sup>7</sup>

Tourism is valued at \$1.1 billion annually<sup>8</sup>

And northern Santa Barbara County is less than 50 miles downwind of the Diablo Canyon Nuclear Plant. With no homeowner or business insurance available in the event of a radioactive release, the federal government's Price-Anderson limits are irresponsible.

The Nuclear Regulatory Commission's steadfast refrain of "it can't happen" here, even in light of Fukushima, is one California must question. As a state, how would California residents, property owners and businesses be "made whole again" after a nuclear accident in light of the gap between coverage and damages? To do less would be an abrogation of the state's responsibility to protect our economy, the reliability of our energy sources and our citizens.

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<sup>5</sup> SCE response to CEC data request 4/25/11

<sup>6</sup> <http://www.sanluisobispo.com/2010/04/01/1088758/value-of-slo-county-crops.html>

<sup>7</sup> <http://www.slocounty.ca.gov/Assets/AC/Digital/2010-11TaxRateBook.pdf>

<sup>8</sup> <http://www.sanluisobispocounty.com/media/facts-figures/>

3. **The inadequacy of utility planning to determine how they would replace 4400 MW of baseload generation should the “unthinkable” become a reality on the our side of the Pacific Rim.** At a state senate hearing in April 2011, SCE admitted they had only two days of reserve power planning after a loss of SONGS before needing to purchase power on the volatile spot market.

PG&E offers five scenarios for replacement of its aging reactors at Diablo and then concludes:

PG&E has examined the net benefits to customers of extending the operations of Diablo Canyon compared to shutting down DCPP at the end of its current license period and obtaining replacement power from 2025 through 2044. Under a wide range of assumptions, it is cost effective to renew the operating licenses for Diablo Canyon and extend operations for 20 years.<sup>9</sup>

SCE states: “No studies or reports have been issued that describe the characteristics of the resources needed to replace the plant in the 2020s.”<sup>10</sup> Yet SCE continues:

There will be challenges in devising transmission fixes that are required to meet the existing grid reliability standards. There will be substantial adverse environmental impacts which will significantly affect the State’s goals. There will be rate increases needed to reflect the impact of more costly replacement power resources and transmission. There is an immediate need to start planning and permitting of replacement generation and transmission facilities if SONGS 2 & 3 does not operate beyond 2022.

Again A4NR agrees that challenges exist, but an updated look at the challenges Japan is facing must also be weighed. This month, Japan’s prime minister has announced his wish that his nation pursue a phasing out of nuclear power, following the lead of Germany, Italy and Switzerland. This decision presents many more challenges for resource-constrained Japan than phasing out aging reactors in California. Yet California cannot wait until Mother Nature decides to flex her muscles on the west side of the Pacific Rim before we act – for it may be too late.

In light of these three areas of concern, A4NR makes the following recommendations to the CEC:

- 1) The CEC should recommend that SCE and PG&E undertake immediate studies to determine how they would replace 4400 MW of baseload generation in the short and long term should their nuclear plants be rendered unusable by a seismic event or other natural disaster as well a potential shutdown due to acts of malice or terror should the “unthinkable” become a reality on the our side of the Pacific Rim.
  
- 2) The CEC should recommend that the U.S. Department of Energy’s Blue Ribbon Commission come to California to explain why our state should risk another 20 years of radioactive waste production on seismically active coastal zones. As the

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<sup>9</sup> PG&E responses to CEC DR.....

<sup>10</sup> SCE responses to CEC Q. F.1 DR....

NRC has promulgated a waste confidence ruling increasing the allowable on-site storage of waste for as long as 60 and possibly 100 years after shutdown, questions of responsibility for overseeing the waste and ongoing storage costs need to be evaluated. There is no assurance that fiscal burdens would not leave the state responsible for this unfunded federal mandate.

- 3) The CEC should recommend that the federal government review liability limits under Price-Anderson (\$12.6 billion) in light of damage estimates that exceed \$100 billion in Japan. As a state, how would California residents, property owners and businesses be “made whole again” after a nuclear accident in light of the gap between coverage and damages?
- 4) The CEC should recommend that the 1967 Certificate of Public Convenience and Necessity (CPCN) issued for Diablo Canyon be reviewed and updated in light of new evidence on population, seismic vulnerabilities, absence of a permanent offsite solution to safe storage of highly radioactive waste.
- 5) The CECE should recommend an updating and analysis of the costs associated with increasing the emergency planning and evacuation zones from 20 to 50 miles and beyond in the wake of the NRC’s own recommendation that residents voluntarily evacuate a similar sized area around Fukushima.

We thank the Commission for its time and consideration of these comments, requests and recommendations.

Yours truly,

/s/

Rochelle Becker

Executive Director

Alliance for Nuclear Responsibility



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### **RE: Comments and Recommendations of the Alliance for Nuclear Responsibility (A4NR) in response to the Nuclear Data Requests of Pacific Gas & Electric (PG&E) in the 2011 Integrated Energy Policy Report, Docket 11-IEP-1J**

The following comments are drawn from the questions asked of the utility by the CEC and include below the question, the answer provided by the utility, and additional questions and or recommendations regarding the utility's answer posed by A4NR.

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**A.6** Please report on progress in assessing the implications of a San Simeon-type earthquake beneath Diablo Canyon, including expected ground motions and vulnerability assessments for safety- and non safety-related plant systems and components that might be sensitive to long-period motions in the vicinity of an earthquake rupture. (Diablo Canyon)

#### **Response for DCP:**

The 2003 M6.5 San Simeon was a predominately reverse earthquake. The closest distance from the San Simeon rupture plane to DCP power block was 35 kilometers. Diablo Canyon Power Plant is located on the hanging wall of the main thrust of the San Simeon rupture plane. Best estimates of the dip of the main thrust in the San Simeon earthquake ranged from 45 to 60 degrees.

The scenarios run in the 2011 seismic hazard update address the ground motions that could potentially be generated from a San Simeon type of an event beneath DCP. All of the earthquake spectra resulting from the SLB and LO earthquake scenarios (considering varying dips) were enveloped by the 1977 Hosgri Earthquake Design Spectrum at all spectral periods.

In the 2011 seismic hazard update (Report on the Analysis of the Shoreline Fault Zone, Central Coast California, 2011), deterministic earthquake scenarios were run for a M6.8 Los Osos (LO) earthquake and a M6.3 San Luis Bay (SLB) earthquake. The Los Osos fault is

located northeast of DCPD and is a southwest dipping reverse fault. The San Luis Bay fault is southwest of DCPD and is a northeast dipping reverse fault. For the LO and SLB fault locations and geometry, DCPD is on the hanging wall. Various earthquake scenarios were included in the seismic hazard analyses using alternative fault dips. All dips considered (50, 70, and 80 degrees) for the M6.3 SLB earthquake resulted in the fault plane passing directly under DCPD. The shortest distance to from the SLB fault plane to DCPD is 1.9 km for the 50 degree dip. For the M6.8 LO earthquake scenario, three alternative dips were considered, 45, 60, and 75 degrees, with the 45 degree dip passing directly underneath DCPD at a shortest distance to the fault plane of 7.6 km.

**A4NR: Have the conclusions reached by PG&E for the various scenarios presented in paragraph 3 (above) been independently peer reviewed by any state regulatory agency with a seismic staff and/or the US Geological Survey? If yes, please provide copies of independent reviews. If not, with PG&E's controversial history of faulty assumptions (Diablo and San Bruno) how can the state rely on unreviewed reports for investment in future generation reliability.**

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**A.11** Please report on the status of any reassessments of whether emergency plans and access roads to the plants and surrounding roads are adequate for allowing emergency response personnel to reach the plants and local communities and plant workers to evacuate following a major seismic event/ plant emergency to protect the public, workers and plant assets and allow for timely evacuation following such an event. Please take into account changes to the local population and traffic density/congestion since the plants were constructed and the possible loss of some of the roads due to a major seismic event or other plant emergency.

**Response for DCPD:** Diablo Canyon recently performed an updated analysis assessing the estimated evacuation times following a combined earthquake and radiological emergency at the Diablo Canyon Power Plant (DCPD). In 2010 PG&E contracted with MMI Engineering to develop the "HAZUS® Analysis of a Hosgri Fault Earthquake Scenario in Support of the Diablo Canyon Power Plant Earthquake Emergency damage to the large majority of bridges and roadways. The overall extent of estimated damage is lower than predicted in past studies. Traffic flow and potential delays were compared for scenarios with "normal" roadway capacity, and with reduced capacity based on anticipated damage. The results of these assessments are:

- The overall extent of estimated damage to roads and bridges is lower than predicted in past studies.

**A4NR: How does PG&E's analysis presented above, completed in 2010, square with the more recent post-Fukushima NRC inspection that identified the following problem at Diablo Canyon regarding emergency planning:**

**"Other issues identified in the inspection include:**

- **Reliance on state highways and access roads that may be inaccessible after an earthquake."**

**In the wake of this more recent NRC analysis, does the 2010 HAZUS study quoted above need to be revised and updated? If yes, will PG&E agree to update the study within the same timeframe as current AB 1632 seismic studies? If no, explain why.**

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**B.3** A problem at Fukushima was that monitors were not available during the emergency to indicate spent fuel pool conditions (e.g., water levels and temperature) as problems unfolded. Do the spent fuel pools have monitors or instrumentation that would be available and reliable under severe accident conditions? (Diablo Canyon, SONGS)

**Response for DCP:** There is a common spent fuel pool (SFP) annunciator for each unit in the main Control Room which actuates to indicate abnormal level (high or low) and temperature (high/rate of change). The associated annunciator response procedure directs local actions to confirm the abnormal conditions and take remedial actions. There is also indication of SFP temperature available to the control room and other locations on the plant computer. *The instruments which supply signals to the annunciator and the plant computer are not environmentally qualified and are subject to failure in a harsh temperature or radiation environment. (A4NR emphasis added)*

PG&E will evaluate improvement to the instrumentation associated with spent fuel pool and take appropriate actions based on lessons learned from Fukushima.

**A4NR: It would seem that the lesson from Fukushima has already been learned in this instance, and PG&E admits the instruments in question “are subject to failure in harsh temperature or radiation environmentl.” Is PG&E’s answer to “evaluate improvement” a direct response or only a decision to consider making the appropriate changes? Why would such an evaluation not be launched immediately? What further lesson from Fukushima is PG&E awaiting? What will be the cost to update this instrumentation?**

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**B.6** Given the lessons learned from the Fukushima plant in Japan and overheating problems in spent fuel pools, what are the estimated costs and potential risks of relying indefinitely upon onsite interim storage facilities? Please provide a copy of any cost/benefit study on the costs and risks of long-term or indefinite onsite spent fuel storage in pools and dry cask storage. (Diablo Canyon; SONGS; Humboldt Bay)

**Response for DCP:**

The operational cost of maintaining the dry storage facility is approximately \$2.5 million (M) annually. This cost includes security and operational support. We do not have specific numbers for the cost to maintain and operate the systems that support the spent fuel pool operation.

Cost/benefit studies have not been developed for the long term storage of spent nuclear fuel at the DCP site. It is assumed in budget development, that PG&E will store spent nuclear fuel on site until the Department of Energy is ready to perform the removal. Estimates of Direct Cost for movement of spent nuclear fuel into dry storage have been developed and planned for the near term operating budgets. PG&E has developed a dry storage facility that is licensed and permitted to store all of the spent nuclear fuel generated during the 40 year licensed life of

DCPP. It is still our position that the facility is an interim solution until the Department of Energy assumes their responsibility and collects the fuel for reprocessing or long term storage.

**A4NR: Why is PG&E able to provide the CEC with a cost of \$2.5 million annually for the dry storage facility, and yet when requested to do so by A4NR as a data request in the CPUC proceeding 10-01-022 in October, 2010, provided the following non-response in document *DiabloLicenseRenewal\_DR\_ANR\_009-Q01-03*?**

QUESTION 1

What is the actual itemized annual operations and maintenance cost of the DCNPP ISFSI facility as experienced in its first years of actual operation 2008-2010?

ANSWER 1

This information is not available. While the actual cost is included in the total O&M cost the DCPP accounting system has not collected annual operations and maintenance cost of the DCPP ISFSI facility at this level of detail.

**Does the \$2.5 million include security, O&M, replacements for 60 years beyond the operation of Diablo Canyon? If so, why was this number not included in PG&E's license renewal funding application?**

**A4NR recommend these costs be identifiable for energy planning purposes. If the information was not available in October 2010, when did it become available**

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**D.5** What are the annual spent fuel pool operating and maintenance costs? Are any major capital investment projects planned and/or anticipated for the spent fuel pools, particularly in light of events at the Fukushima Daiichi plant? If so, what are the anticipated costs? (Diablo Canyon, SONGS)

**Response for DCPP:** Diablo Canyon does not collect cost in the accounting system in a manner that allows for operating and maintenance cost by system (such as spent fuel pool) to be extracted. Cost are collected and reported by organizational department. The spent fuel pool operating and maintenance costs are included in the total O&M cost and forecasts.

**D.7** What is the current amount of spent fuel being stored and planned for storage (number of assemblies and metric tons of uranium) in the ISFS through the end of the operating license as well as through a 20-year license extension? What are the plans for increasing onsite storage capacity to accommodate all of the spent fuel generated during the current operating license and through a 20-year license extension? (Diablo Canyon, SONGS)

**Response for DCPP:** As noted in the answer to D.6, the ISFSI can accommodate up to 138 storage cask, each with 32 fuel assemblies. This equates to approximately 1,898.88 metric tons of uranium. The additional spent fuel assemblies discharged from the reactors during a subsequent 20-year license extension would be stored in the Spent Fuel Pools until DOE collects spent fuel from the ISFSI or the ISFSI is expanded beyond the current licensed size of 138

storage casks. ISFSI expansion, if necessary, is not anticipated to take place until plant decommissioning.

**A4NR: As the costs of maintaining a spent fuel pool for the 20 year period of relicensing should be considered in a cost/benefit risk analysis of relying on nuclear power, PG&E should be made to do the accounting to separate out the costs of operating, maintaining and securing the active spent fuel pool system. PG&E states above that it intends to keep the pools full of wastes for the duration of the 20 year extension (absent DOE intervention in the interim). It is only with that cost data that the costs of pool storage can be compared to an accelerate transfer to dry cask storage.**

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**D.13** What are the current annual and total estimated costs for the maintenance, operation, and security for the ISFSI? What are the estimated costs for storing spent fuel in the ISFSIs through the end of the plant's current operating licenses? What would be the additional operations, maintenance, and security costs resulting from delays in shipment to offsite storage lasting up to 25 years (for example, through the year 2034)?

**Response for DCPD and HBPP:** Diablo Canyon does not collect cost in the accounting system in a manner that allows for operating and maintenance and security cost by system (such as the ISFSI) to be extracted. Cost are collected and reported by organizational department. The ISFSI operating and maintenance costs are included in the total O&M cost and forecasts.

**A4NR: How does the answer PG&E provides to D.13 square with the answer previously provided in B.6:**

**Response for DCPD:**

**The operational cost of maintaining the dry storage facility is approximately \$2.5 million (M) annually. This cost includes security and operational support. We do not have specific numbers for the cost to maintain and operate the systems that support the spent fuel pool operation.**

**Is the "dry storage facility" not the ISFSI?? Is the number given not \$2.5 million annually? Is this not a current number? How is this note the answer to D.13?**

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**E.1.** ...Please explain the apparent discrepancies between this USGS report and PG&E's assertions about the Shoreline and Hosgri Faults, i.e., whether the Shoreline Fault is segmented and its potential interaction with the Hosgri Fault, implications for seismic hazard for Diablo Canyon, and any planned seismic research to address these questions. (Diablo Canyon)

**Response for DCPD:** ...“As part of the offshore 3-D seismic surveys, PG&E will perform a check on this assumption. The intersection of the Shoreline and Hosgri fault zones will be studied to help further understand the interaction of these two fault zones at depth.”

**A4NR:** The state of California should reserve all judgment of the potential interaction between the fault systems mentioned in E.1 until not only have the 3-D studies been completed so that PG&E can “perform a check on this assumption,” but until the Independent Peer Review Panel convened under the CPUC has provided its analysis as well. It is prudent to remember the 1967 decision by the CPUC that relied solely on PG&E’s assurances that there was no active earthquake faulting in the vicinity of the plant. A very costly oversight and one recognized and documented by CPUC staff in 1988.

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**F.2** What new generation and/or transmission facilities would be needed to maintain voltage support and system and local reliability in the event of a long-term outage at Diablo Canyon or SONGS? Please describe the contingency plans to maintain reliability and grid stability in the event of an extended shutdown at the plant. (Diablo Canyon, SONGS)

**PG&E Response** PG&E maintains adequate reserves to replace power from a Diablo Canyon unit if an outage lasts longer than 90 days. PG&E would either dispatch its own resources or purchase market power, if lower cost, to provide replacement power during the outage. PG&E may also rely on the forward markets to provide replacement power if the cost was lower than its own resources. For prolonged outages at Diablo Canyon, PG&E would seek longer-term replacement power generation from the market through a request for offers (RFO). Depending on the offers it receives, PG&E would provide replacement power during the outage from a mix of its own resources, market purchases and procurement through the RFO.

PG&E does not expect that an outage at Diablo Canyon would require any additional transmission facilities to maintain voltage support or system or local reliability.

**A4NR:** PG&E’s response relies on possible dispatching of PG&E’s own resources to replace lost power from Diablo Canyon on a short or long term basis. However, it may also rely on markets and external power sources. These types of “forward markets” proved volatile and costly during the California energy crisis of 2000. Should not the utility be required by the state to begin studying and planning for in-state utility generation that both meets the state’s renewable energy portfolio goals as well as providing economic incentives with local benefits—including job replacement—rather than placing the state at the jeopardy of merchant generators?

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**G.1** Please provide current information summarizing the insurance policies concerning nuclear liability claims for the facilities including what is the current maximum liability for secondary financial protection for your facility. (Diablo Canyon; SONGS; Humboldt Bay)?

**Response for DCP and HBPP:** Coverage under this policy is limited to liability for bodily injury or offsite property damage caused by nuclear material at the defined location. No coverage is afforded for damage to any property on site. The policy also excludes coverage for workers’ compensation or employers’ liability.

The maximum limit written under the Facility Form Policy is \$375M. PG&E purchases the maximum limits for Diablo Canyon Power Plant as required based on criteria in 10CFR140.11. PG&E purchases \$53M of nuclear liability coverage for the Humboldt Bay Power Plant. This amount is based on criteria in 10CFR140.12 “Amount of financial protection required for other reactors”.

The Secondary Financial Protection (SFP) Policy is used by the operators of nuclear power plants that produce >100 MWe to meet financial protection requirements under the Price-Anderson Act. The policy provides “following form” Coverage for losses that exceed the primary limit available under the Facility Form Policy and the Master Worker Policy. Diablo Canyon Units 1 and 2 each has a certificate to the SFP program. There are currently 104 power reactors in the SFP program and the \$117.495M per reactor maximum retrospective premium call results in an approx \$12.2 billion (B) layer of insurance. The total protection amount for nuclear claims at Diablo Canyon is equal to the primary and SFP program for a total of approximately \$12.6B.

**A4NR: Given that, according to the County of San Luis Obispo TAX RATE INFORMATION & ASSESSED VALUATIONS 2010 – 2011 (Prepared under the direction of Gere W Sibbach, Auditor-Controller) the locally assessed San Luis Countywide Gross Secured Assessed Value of property is \$38,984,933,517, how can the total SFP (Price-Anderson) insurance cap of \$12.6 billion be considered adequate, if an event of the magnitude of Fukushima occurred at Diablo Canyon? The initial claims in the first months after the Fukushima disaster (in this predominantly rural and undeveloped prefecture) are totaling over \$23.6 billion in property damage and liability?**



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**RE: Comments and Recommendations of the Alliance for Nuclear Responsibility (A4NR) in response to the Nuclear Data Requests of Southern California Edison (SCE) in the 2011 Integrated Energy Policy Report, Docket 11-IEP-1J**

The following comments are drawn from the questions asked of the utility by the CEC and include below the question, the answer provided by the utility, and additional questions and or recommendations regarding the utility's answer posed by A4NR.

**Question A.01:**

Please report on the overall plans, schedule and progress for completing the recommendations in the AB 1632 Report/2008 IEPR Report (pp. 78-81), the 2009 IEPR (pp. 238-240), and the California Public Utilities Commission's (CPUC) letters of June 2009 to PG&E and SCE; please indicate when PG&E and SCE plan to report to the Energy Commission and the CPUC on the findings from these studies. How do the schedule and plans for completing these recommendations compare to the schedule and plans for license renewal? (Diablo Canyon, SONGS)

**Response to Question A.01:** SCE indicated in this report that further evaluation of the offshore discharge conduits (pipes) is required to assess the conduit's seismic capacity for non-safety related reliability purposes. SCE anticipates that the results of this evaluation will be submitted to the CPUC and CEC by early July, 2011.

**A4NR: We are now at the end of July 2011. Has the evaluation of offshore discharge conduits as mentioned in A.01 been provided by "early July, 2011?"**

**Response to Question A.01 (cont.):** SCE continues to assess options for the timing of CPUC and NRC license renewal filings.

**A4NR: What does SCE imply by continuing to assess options for the “timing of CPUC and NRC license renewal filings?” Does SCE intend to do as PG&E did and file for NRC license renewal prior to completion and independent state peer-review off the AB 1623 seismic studies? Will SCE commit to not filing with NRC until the completion and review of the studies? At the CPUC hearing for the relicensing funding for Diablo Canyon, for which the current alternatives are “dismissal” or “suspension,” the following statement was made on July 7, 2011, by Walker Matthews, attorney for Southern California Edison, and is here quoted from the official transcript:**

My name is Walker Matthews, attorney for Southern California Edison. I would like to join in San Diego's statement. I also would like to say for the record based on some of the comments that have been made in this hearing that this proceeding should be limited solely to the consideration of PG&E's funding request. SCE and SDG&E have not filed an application for funding for SONGS license renewal, and that issue is not before the Commission in this proceeding. Therefore, the Commission's decisions in PG&E's license renewal funding proceeding, particularly as it relates to the timing and sequencing of PG&E's activities, should not have precedential effect in a future SONGS license renewal funding proceeding.

**A4NR: Is the response of SCE in this above referenced PG&E CPUC proceeding an indication that SCE may intend to follow PG&E's actions and file for NRC license renewal before meeting the state's requirements to complete the advanced seismic and other studies recommended in AB 1632? Has the CEC any reason to now believe that SCE will not fulfill its commitment to AB 1632, in spite of the following comments made by CEC Vice Chairman James Boyd to SCE representative Alvarez at the IEPR adoption hearing on December 16, 2009:**

VICE CHAIR BOYD: And I think, Mr. Alvarez, I will give you another message to carry back. I did not complement you and Edison vis a vis PG&E on the cooperation on nuclear; I am very disappointed, and I said so in the Press, with what PG&E has done, and I think now it is time to single out Edison for their statement of wanting to collaborate and cooperate on all of the commitments and another utility has chosen, as Ms. Becker has indicated, to kind of go around behind us. I cannot speak for Commissioner Byron, but I for one know that there was great disappointment with that action. But we will address it in due time.

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**Question A.03:** Please discuss the relevance of these models and the revised UCERF database for the studies that might be required as part of the license renewal feasibility assessments for the plant. (Diablo Canyon, SONGS)

**Response to Question A.03:** While the referenced studies may provide additional information for regulators and the public, they are not required to support NRC license renewal at SONGS.

**A4NR: Does SCE intend to ignore the relevance of these studies because they are not required to support NRC license renewal? How can SCE guarantee that data or models from UCERF might not be required to execute the mandatory federal equivalency permit that needs to be granted by the California Coastal Commission, during NRC license renewal, or, by the NRC itself in light of lessons learned from Fukushima?**

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**Question A.05:** Please report on progress in efforts to prioritize and include further investigations into the seismic setting at SONGS and assess whether recent or current seismic, geologic or ground motion research in the vicinity of SONGS has implications for the long-term seismic vulnerability of the plant. (SONGS)

**A.05:** SCE's seismic program will enable it to respond to the NRC's Generic Letter. The Nuclear Regulatory Commission (NRC) is developing a Generic Letter to request information from all U.S. nuclear plants regarding seismic hazards.

**A4NR: Once again, does SCE intend to direct all its efforts to only address requirements in support of NRC license renewal? How can SCE guarantee that data or models from UCERF might not be required to carry out the required federal equivalency permit that needs to be granted by the California Coastal Commission, and which the NRC must adhere abide by? Are there not requirements for studies in AB 1632 that go beyond those required by the NRC?**

**In light of the NRC's task force report on Fukushima, and the NRC's ASLB order creating a 52 month delay in the PG&E relicensing for seismic studies, does SCE believe this will not portend a precedent for San Onofre?**

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**Question A.07:** Please report on the status of and findings from PG&E's and SCE's assessments regarding to what extent their plants' non-safety related systems, structures and components (SSCs) comply with current building codes and seismic design standards for non-nuclear power plants. (Diablo Canyon, SONGS)

**Response to Question A.07:** On February 2, 2011, Southern California Edison (SCE) submitted its response to the California Public Utilities Commission's (CPUC) direction to address certain topics regarding the San Onofre Nuclear Generating Station Unit Nos 2 & 3 and as recommended by the California Energy Commission's (CEC) 2008 AB 1632 report,

**A4NR: SCE submitted its responses to the SSC question on February 2, 2011, a month before Fukushima disaster in Japan. Does SCE intend to update and revise those findings in the aftermath of Fukushima, and if so, when? And at what cost?**

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**A4NR: The following questions and responses relate to spent fuel pools; related questions from multiple (but related) sections of the data requests are combined.**

**Question A.10:** The National Academies in 2006 reported on the risk of fire from overheated spent fuel rods in spent fuel pools. Fires were reported in the spent fuel pools at the Fukushima Daiichi plant. Please report on the progress in returning the spent fuel pools to open racking arrangements, as recommended in the 2008 IEPR,

**Response to Question A.10:** SCE is currently evaluating whether the rate at which used fuel is moved from the used fuel pools into dry cask storage should be modified. The original storage capacity for SONGS 2 & 3 was 1,600 used fuel assemblies. Re-racking is not required to store only 1,600 used fuel assemblies in the existing racks. Replacement of existing used fuel racks would result in unnecessary production of low level radioactive waste and additional unnecessary cost.

**Question D.03:** How many times has the spent fuel pool been re-racked? What are the plans for storing spent fuel in pools through the end of the operating license and through a 20-year license extension? (Diablo Canyon, SONGS)

**Response to Question D.03:**

The used fuel pools at SONGS Units 2 & 3 *have been re-racked once*. On February 2, 2011, Southern California Edison (SCE) submitted its response to the California Public Utilities Commission's (CPUC) direction to address certain topics regarding the San Onofre Nuclear Generating Station Unit Nos 2 & 3 and as recommended by the California Energy Commission's (CEC) 2008 report.

**Response to Question D.02:** There are currently 2,450 used fuel assemblies stored in the SONGS 2 & 3 used fuel pools, which have a combined capacity of 3,084 assemblies (including 434 cells that are held available at all times for full-core offload reserve requirements). *The SONGS 2 & 3 used fuel pools had an original storage capacity of 1,600 assemblies before re-racking.*

**Question D.04:** What is the estimated time/costs to return the spent fuel pools to their original storage configuration (as originally designed), for example, by moving some spent fuel from the pools into dry cask storage (Diablo Canyon, SONGS)

**Response to Question D.04:**

SCE has no estimate of time/costs to return the used fuel pools to their original storage configuration. SCE is currently evaluating whether to modify the rate at which used fuel is moved from the used fuel pools into dry cask storage. The original storage capacity for SONGS 2 & 3 was 1600 used fuel assemblies. Re-racking is not required to store only 1600 used fuel assemblies in the existing racks.

From :

**Question A.12:** Please provide information on the plans and estimated costs for storing and/or disposing of low-level nuclear waste and spent nuclear fuel that would be generated through a 20-year license extension and plant decommissioning. (Diablo Canyon, SONGS)

#### 4. Used Fuel Storage Systems

##### a) Used Fuel Pool

The NRC has approved the use of engineered pools to store used fuel. These pools provide cooling, prevent criticality, and protect the fuel assemblies from excess mechanical or thermal loading. Used fuel is stored underwater in the pools in storage racks. Used fuel assemblies are maintained in a safe configuration by several design aspects of the used fuel storage racks including: (1) the pattern of the fuel assemblies in the racks, and (2) the design of the racks which limit fuel assembly interaction. Design of the used fuel pools ensures adequate convective cooling for the removal of decay heat. The used fuel pools are located in a secured area at SONGS 2 & 3, with one pool for each unit. Cooling and system integrity monitoring and maintenance are performed as part of routine operation and maintenance programs.

From:

#### 2. Used Fuel Management Plan

SCE plans to safely store its used fuel onsite in the ISFSI and in its used fuel storage pools, as necessary, until the DOE fulfils its contractual obligations to remove the used fuel from the site. The technology exists to evaluate, refurbish, and repair or replace used fuel dry cask storage system components, for as long as it is necessary to extend the life of the used fuel dry cask storage facility

**A4NR: There seems to be confusion over the long-term waste storage plans for SONGS, that raise the following questions:**

- 1. SCE states in answer D.04 that they have no cost or schedule to return the fuel pools to their original lower-density capacity. Does SCE intend to consider or actually intend to reduce the density of the spent fuel pools at SONGS to their pre-re-racking configuration as recommended in the 2008 report? If not, why?**
- 2. If, as answered in A.10, “. Re-racking is not required to store only 1,600 used fuel assemblies in the existing racks” then why wouldn’t SCE perform the operations necessary to return the pools to their original capacity of 1600 used fuel assemblies (For SONGS 2+3)?**
- 3. SCE maintains that it will have room in the ISFSI facility to store all spent fuel assemblies from the initial 40 year license and a 20 year license renewal. Does SCE commit to doing that or do they leave open the possibility that spent fuel from the relicensing period may remain in the spent fuel pools for an indeterminate time?**

**Finally, and in general, how is it that PG&E is able to provide the amount in metric tons of spent fuel quantities at Diablo Canyon, but SCE maintains that such data must remain confidential due to national security conditions?**

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**Question A.13:** Please describe any studies underway or to be completed for (sic.) as part of license renewal feasibility studies that: (a) quantify the local economic impacts of shutting down the plants compared with alternate uses of the site and (b) assess the reliability, economic and environmental impacts of replacement power options for the plants. Please provide copies of any assessments conducted since 2008. (Diablo Canyon, SONGS)

**Response to Question A.13** (excerpt of answer) Specifically, the operation of SONGS 2 & 3 affects a large number of sectors within the California economy. The study indicates that the operation of SONGS 2 & 3 supports about 9,400 jobs and impacts the California economy by more than \$3.3 billion per year.

**A4NR: If SCE concludes that the economic value of SONGS to the California economy in terms of jobs and related spending is \$3.3 billion per year, does SCE also conclude that the loss of SONGS as an energy generating facility due to possible seismically related event such as the one experienced at Kashiwazaki (without environmental releases) or Fukushima (with environmental releases) also poses a \$3.3 billion liability for California?**

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**Question B.06:** Please provide a copy of any cost/benefit study on the costs and risks of long-term or indefinite onsite spent fuel storage in pools and dry cask storage.

**Response to Question B.06:** SCE has not estimated the costs for relying indefinitely upon onsite storage facilities. See the response to D.13 for used fuel storage costs at the ISFSI. No cost/benefit study on the costs and risks of long-term or indefinite onsite used fuel storage exists. In the absence of Yucca Mountain or any other off-site used fuel repository, a cost/benefit study can not be done.

**A4NR: Why and how is “...the absence of Yucca Mountain or any other off-site used fuel storage...” repository an impediment to SCE doing a cost/benefit/risk study of the indefinite storage of spent fuel on site (in pools or dry casks)? Indeed, the fact that such a storage facility has been promised and undelivered by the federal government for 30 years is the very reason to consider its present and ongoing absence an economic and liability risk that must be factored into the ongoing production of radioactive waste via nuclear power generation. The fact that no current study exists is not a detriment, it is the impetus for SCE to design and implement such a study as they had been tasked to do as part of the overall scope of the AB 1632 requirements.**

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**Question D.05:** What are the annual spent fuel pool operating and maintenance costs? Are any major capital investment projects planned and/or anticipated for the spent fuel pools, particularly in light of events at the Fukushima Daiichi plant? If so, what are the anticipated costs? (Diablo Canyon, SONGS)

**Response to Question D.05:** SCE's accounting system does not separately identify operations and maintenance (O&M) costs for the SONGS 2 & 3 used fuel pools. These costs are embedded in the annual SONGS 2 & 3 Base O&M expenses.

**A4NR:** Simply because SCE's "accounting system does not separately identify" the costs for operations and maintenance of the SONGS spent fuel pools does not mean that the data cannot be derived. Ongoing costs for these pools, absent a long term waste storage solution (as SCE admits in their answer to B.06) are needed by the state to determine future undetermined costs of radioactive wastes storage. The ultimate costs—including the possibility that the federal government arrives at no national solution during the 60 year period of the NRC's "waste confidence" decision, or that the utility itself becomes insolvent (the situation facing TEPCO in Japan)—could leave the long term waste storage as an unfunded mandate passed on to the state of California.

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**Question D.06:** What is the current status of the Interim Spent Fuel Storage Installation (ISFSI) and projected schedule for transfer of spent fuel to the ISFSI during the operating license period and through a 20-year license extension? What are the current estimated costs for constructing new dry cask storage facilities onsite? (Diablo Canyon, SONGS)

**A4NR:** According to the tables provided by SCE to answer question D.06, if a 20 year license renewal is granted to SCE for SONGS 2+3, spent fuel will remain in the spent fuel pools until the year 2054, when the last assembly is removed. What mechanisms does SCE have in place to insure that adequate funding for any institutional, managerial and administrative policies that will needed to monitor this "active" cooling method, more than 12 years after all revenue and income from the facility has ceased?

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**Question D.11:** What are the most recent estimates for how long spent fuel can be safely stored in the ISFSIs without repackaging or refurbishing any ISFSI components? For ISFSI components with design lives of less than 50 years, please specify the design life for each component and describe: (a) what steps would be needed in order to continue to store spent fuel in the ISFSI beyond that design life, (b) the cost of these steps, and (c) the new design life of the component after these steps are taken.

**Response to Question D.11:** The design life for ISFSI components is 100 years for the storage modules and 55 years for the dry storage canisters. Before the design life of the components is reached, a review of the material condition (i.e., inspection of the components for physical degradation) will be conducted to assess how much life remains with adequate safety margins, and what actions are required, if any. The cost will depend upon what actions are needed as determined from the inspection and assessment of the materials.

**A4NR: Is SCE willing to concede that the future potential costs from any failures of the ISFSI or dry storage canisters and components is “unknown” and/or “unknowable” at this time? If not, SCE should provide these cost estimates.**

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**Question D.13:** What are the current annual and total estimated costs for the maintenance, operation, and security for the ISFSI? What are the estimated costs for storing spent fuel in the ISFSIs through the end of the plant’s current operating licenses? What would be the additional operations, maintenance, and security costs resulting from delays in shipment to offsite storage lasting up to 25 years (for example, through the year 2034)? (Diablo Canyon, SONGS, Humboldt Bay)

**Response to Question D.13:**

SCE's budgeting system does not separately identify operating and maintenance (O&M) costs for the SONGS ISFSI. These costs are embedded in the annual SONGS 2 & 3 Base O&M expenses. SCE has not developed an estimate of such costs resulting from delays in shipment to offsite storage through the end of the current operating license or through a period of extended operation.

**A4NR: The potential costs to California ratepayers for the unfunded mandate of long term high level waste storage is a great liability. SCE should be made to provide an itemized budget of the ongoing costs and maintenance of the ISFSI. The federal government is now 30 years behind in its promise to deliver a permanent solution to radioactive waste disposal; the CPCN granted to the California nuclear facilities never included nor assumed a long term waste repository on site. That the state or ratepayers may or will be required to assume the burden of paying for this storage cannot be dismissed and any prudent and reasonable discussion of the costs/benefits and risks of ongoing nuclear power generation in California deserves specific answers to these questions.**

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**Question E.03:** Recent high resolution seismic reflection data relevant to SONGS was collected by the USGS (spring 2008) that revealed a previously unknown but apparently active fault zone between the San Diego Trough fault zone (SDTFZ) and the San Pedro Basin fault (SPBF). The interpretation of this data is that the new fault connects the SDTFZ and the SPBF, forming a combined fault zone about 250 km in length and that the new combined fault zone may pose more significant seismic hazard than previously recognized. Has SCE assessed whether this research has implications for the long-term seismic/tsunami vulnerability of both safety-related and non safety-related systems and components of SONGS? If so, what are the results of the assessment? (SONGS)

**Response to Question E.03:** These faults were included as fault sources in the SCE (1995, 2001) Probabilistic Seismic Hazards Analysis (PSHA) for SONGS, and the results of these studies showed that neither of the faults contribute significantly to the hazard at SONGS; thus these faults were not included in the SONGS 2010 PSHA.

**A4NR: SCE's answer to E.03 appears to skirt the question posed by the CEC. The CEC question refers to data collected in spring 2008. In their answer, SCE cites data from 1995 and 2001 that were used in their PSHA for SONGS and because of a negative result from that older data, did not include information regarding this faulting in the 2010 PSHA. SCE does not answer the question, which asked about the inclusion and analysis using the 2008 USGS data. When and how is SCE using (or not using) this 2008 USGS data, and if not, why?**

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**Question E.06:** Significant global warming issues for coastal nuclear power plants include sea level rise and increased storm activity. Please describe any studies planned, underway or completed regarding global warming phenomena and their effects on the plant. (Diablo Canyon, SONGS, Humboldt Bay)

**Response to Question E.06:**

No studies on the effects of global climate change on SONGS are planned, underway, or completed.

**A4NR: Please explain why SCE is ignoring either the issues raised by the CEC in their question, or please provide reports, data and analysis that can confirm that SCE has no reason to be concerned with the aforementioned phenomena. Clearly, while not a coastal issue, the unusual spring rains and snow melt that fed the flooding of the Missouri River and caused the indefinite shutdown of the Ft. Calhoun reactor and came within inches of threatening the Calloway reactor demonstrated instances where theoretical occurrences such as the proverbial "100 year flood" can and do happen. Why does SCE choose to ignore these events and other potential impacts?**

**In addition, how is it that PG&E is able to come to the following conclusion in its Data Response answer to the same question:**

By extending DCP operations until 2045, DCP could be subject to this projected 16-inches sea level rise. PG&E has completed evaluations of plant structures that may be impacted by sea level rise. These structures include the intake structure, breakwaters, and discharge structure. PG&E concluded that if sea level rises an additional 16 inches, the design of the plant structures would not be affected (Reference 3).

**And yet SCE assumes these changes won't affect SONGS? Is SCE or the CEC aware of the most recent USGS study on eroding shorelines in southern California, Published in The American Geophysical Union's "Geophysical Research Letters, P. L. Barnard, J. Allan, J. E. Hansen, G. M. Kaminsky, P. Ruggiero, and A. Doria (2011), The impact of the 2009–10 El Niño Modoki on U.S. West Coast beaches, Geophys. Res. Lett., 38, L13604, doi:10.1029/2011GL047707.)**

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**Question F.01 through Question F.04:** These questions from the CEC ask SCE to “provide any studies or reports that describe the characteristics of the resources that might be needed to replace the plant in the 2020s” as well as “What new generation and/or transmission facilities would be needed to maintain voltage support and system and local reliability in the event of a long-term outage at Diablo Canyon or SONGS? Please describe the contingency plans to maintain reliability and grid stability in the event of an extended shutdown at the plant,” and “Please describe plans for replacing power from the plant if an outage lasts longer than 90 days. What are the contingency plans for replacement power if a prolonged outage lasts one year or more?”

**Response to Question F. 02 through F.04**

Electric system reliability in southern California would be imperiled by an unplanned long-term outage at SONGS 2 & 3, especially in the SCE and SDG&E service territories. SONGS 2 & 3 provide energy for customers and significant support to keep the grid operable and compliant with state and federal performance standards. Without this support, the electric grid becomes especially vulnerable to failures and preserving the integrity of the electric grid would likely require implementing controlled rolling blackouts.

In the event of a long-term outage at SONGS 2 & 3, it is likely that controlled rolling blackouts would be implemented, in the short-term, to reduce the stress on the electric grid by disconnecting customers until the risk of electric grid failure is gone. The implementation of this contingency plan would likely occur under moderate to heavy load conditions, and would continue to occur intermittently. The significant investment required for new transmission and generation, and the associated lead times, are not conducive for use as a contingency plan.

**A4NR: In 3 out of 4 answers, SCE paints, with the above language, the unavailability of SONGS as having a catastrophic affect on power grid energy generation, reliability and cost in southern California. While this is no doubt intended to show just how valuable the SONGS facility is to the southern California grid, it has the equal effect of demonstrating just how vulnerable such a single large baseload source of generation is to the unintended and unplanned external forces of nature or deliberate acts of malice. In the wake of Fukushima, for the state of California to ignore even studying the potential loss of such a large source of generation, and to allow the utility to operate without an immediate contingency plan (or, at the very least, “studies” to be used in planning) for replacement generation would be irresponsible and imprudent.**

**In addition, the following exchange took place on April 14, 2011 at a state senate hearing on the future of nuclear power in California, between Senator Padilla, Chairman of the Energy, Utilities and Commerce Committee, and Mr. Stern of SCE:**

PADILLA 01:47:55

The last way of asking the question is kind of a yes-no. Are you required to have these emergency plans in place to substitute for the loss of power.

STERN 01:48:10

The requirements that we have, involve what Ms. Kellon (?) described as the “Resource Adequacy Review” requirements, which the state has on an overall basis. So we have enough capacity in the state, in the system, and in the local areas to handle expected forced outages, changes in weather conditions, etcetera. That process is not really designed to look at the long-term loss of large elements of generation or transmission, it’s really designed to look at what you might normally expect over the course of a year in terms of unavailability of power when you might otherwise want it.

PADILLA 01:48:52

So, the worst-case scenario that you’re asked to prepare for really isn’t the true worst-case scenario is what I’m hearing?

STERN 01:49:00

I think that’s a fair assessment. I think the idea is that that the unlikelihood of such an event makes it such that to spend the potentially billions of dollars against that low probability event doesn’t appear to be warranted. It’s like, you want to be able to have your car to work every day—sometimes your car might not operate—that’s doesn’t mean you should have a spare car sitting there just in case. At the same time, you know, sometimes your car is not going to operate.

PADILLA:

It’s a risk benefit analysis.

STERN:

That’s right.

**SCE poses in its answers to F.02-F.04 that the risk is grave for the region to lose power from SONGS. Senator Padilla was concerned with the ability of the utilities to provide power in the event of a Fukushima-like event for which outages lasted extended periods of time. Mr. Stern indicates that SCE follows the state’s Resource Adequacy Review, stating: “That process is not really designed to look at the long-term loss of large elements of generation or transmission, it’s really designed to look at what you might normally expect over the course of a year in terms of unavailability of power when you might otherwise want it.” In response, Senator Padilla asks if that is truly “worst-case scenario” planning, and Mr. Stern agrees that it isn’t. Should the CEC and the ISO be mandating a planning process for the utilities *that actually plans for the possibility* of extended losses of large baseload power supplies such as happened at Fukushima?**

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**Question G.01:** Please provide current information summarizing the insurance policies concerning nuclear liability claims for the facilities including what is the current maximum liability for secondary financial protection for your facility.

**Response to Question G.01:**

Federal law limits public liability claims from a nuclear incident to approximately \$12.6 billion. SCE and other owners of San Onofre Nuclear Generating Station (SONGS) have purchased the maximum private primary insurance available (\$375 million), provided by American Nuclear Insurers (ANI) in the "Facility Form."

**A4NR: Given that initial liability claims for property damage resulting from the meltdowns at Fukushima are reported by Forbes, Fortune and other financial sources to have exceeded \$23.6 billion by June, 2011, which is almost double the Price-Anderson limit of \$12.6 billion, and private insurance only covers SCE up to \$375 million, how would SCE plan to make “financially whole” any claimants within the state of California were a disaster of the magnitude of Fukushima to strike the SONGS facility? Given that the damage in Japan struck at a remote area of the nation that was much less densely populated than the region surrounding SONGS, has SCE done a calculation and estimate of the potential property damage claims that might arise from a similar scenario? Has SCE run any estimates or scenarios of various costs in liability claims for incidents of both greater and lesser magnitude than the Fukushima events?**

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**Question H.02:** What are some of the major advantages and disadvantages for establishing a San Onofre Independent Safety Committee similar to the Diablo Canyon Independent Safety Committee for Diablo Canyon? (SONGS)

**Response to Question H.02:** SCE understands that the purpose of the Diablo Canyon Independent Safety Committee is to assess the safety of operations and suggest any recommendations for safe operation. At all U.S. nuclear power plants, the NRC Resident Inspector Program includes a rigorous and ongoing assessment of safety which is extensively discussed in the public record. This assessment ensures that station management receives necessary independent input required for safe operation. Duplicating this input from another independent source would result in an unwarranted and unacceptable distraction to station management.

**A4NR: In their response to H.02 SCE asserts of the potential Independent Safety Committee, “Duplicating this input from another independent source would result in an unwarranted and unacceptable distraction to station management.” Has SCE conferred with PG&E and asked that utility if that is the conclusion PG&E has drawn from its experience of the DCISC? If that analysis is not the result of a consultation with a facility that has an Independent Safety Committee, then on what basis does SCE makes its assertion?**