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August 8, 2011

California Energy Commission
Docket Office, MS-4
Re: Docket No. **11-IEP-1J**
1516 Ninth Street
Sacramento, CA 95814-5512
docket@energy.state.ca.us

Re: California Energy Commission (CEC)
Docket No. 11-IEP-1J: Committee Workshop on California Nuclear Power Plant issues

To Whom It May Concern:

Southern California Edison (SCE) appreciates the opportunity to provide comments regarding issues discussed during the Integrated Energy Policy Report (IEPR) nuclear workshop ("the workshop") held on July 26, 2011. SCE would like to acknowledge the Energy Commission Staff for completing this large undertaking encompassing a wide breadth of issues. Attached to this letter, SCE provides responses to the questions identified in the workshop notice.

In addition, during the workshop, Commissioners Weisenmiller and Boyd requested that SCE provide links to Nuclear Regulatory Commission (NRC) specific documents, and the local population at the time of SONGS 2 & 3's original licensing and today, respectively. This information is provided in the attachment to this letter.

If you have any questions or need additional information about these written comments, please contact me at 916-441-2369.

Very truly yours,

/s/ Manuel Alvarez

Manuel Alvarez

Enclosure

1. Seismic/Tsunami Scenarios and Uncertainties for Diablo Canyon, SONGS and Humboldt Bay

a. What is the current understanding of the major onshore and offshore fault systems and the largest magnitude tsunamis, earthquakes, and ground shaking potential calculated at or near Diablo Canyon, SONGS and Humboldt Bay for these facilities in relation to their existing plant or Independent Spent Fuel Storage Installation design?

Response:

The current understanding of the major onshore and offshore fault systems and the largest magnitude tsunamis, earthquakes, and ground shaking is that the area around SONGS has predominantly strike-slip faults that govern the seismic design of SONGS 2 & 3. However, due to the safety margins in the original design of SONGS 2 & 3, the plant should withstand the impacts of other potential earthquake sources, including nearby thrust faults.

Extensive seismic studies were conducted prior to the licensing of SONGS 2 & 3. The investigations identified the Newport-Inglewood and Rose Canyon (NI-RC) fault zones as capable of generating the controlling earthquake for SONGS 2 & 3 design. As a result of these investigations, the peak ground acceleration was conservatively established at a value of 0.67g. This correlates with the potential earthquake of about magnitude 7 at a distance of 5 miles from the plant.

SCE evaluated the potential effects of the hypothesized Oceanside Blind Thrust in 2001. In its submittal to the NRC of this 2001 evaluation, the conclusion was that the potential impacts of this hypothesized fault were insignificant. While SCE continues to evaluate the seismogenic potential of the hypothesized Oceanside Blind Thrust, the NI-RC fault zones continue to be the governing faults.

The tsunami height was calculated based on a conservative assumption that an offshore earthquake with a 7 foot vertical displacement would occur simultaneously with high tide and storm surge. The maximum elevation of the hypothesized tsunami was calculated to be 27 feet above mean lower low water (mllw) level[1]. The plant is at elevation 30 feet mllw with the top of the seawall at the same elevation. The design basis tsunami continues to be at a conservative level of 27 feet mllw (4 feet higher than the inundation level of the 2009 state of California "Tsunami Inundation Map for Emergency Planning").

SCE's dry cask storage system for its Independent Spent Fuel Storage Installation (ISFSI) utilizes a vendor design that is qualified for a structural acceleration of 1.5g and flooding height of 50 feet.

[1] The United States' National Oceanic and Atmospheric Administration uses mean lower low water (mllw), which is the average of the lowest tide recorded at a tide station each day, as the standard for measuring ocean height.

b. The Tohoku earthquake and tsunami in Japan on March 11 greatly exceeded Japan's predictions and design for the Fukushima Daiichi plant with catastrophic results. What are the significant areas of uncertainty associated with earthquake/tsunami predictions for Diablo Canyon, SONGS, and Humboldt Bay, and what studies or mitigating activities are underway to address these uncertainties?

Response:
NRC Commissioner Apostolakis[2] in a recent Commission meeting stated: (Commissioner Ostendorff[3] concurred):

> *"… there is growing evidence that the historical record of tsunamis had not been used properly to determine the design basis at Fukushima Daiichi and, consequently, the protection of the plants was not sufficient. The accident was not of extremely low probability, i.e., it was not "unthinkable."*
>
> He also stated, "*I recently reviewed the probabilistic analysis of the sequence that included the historical evidence of tsunamis, and it turns out that what happened there would have had a frequency of about one in a thousand years, and everybody around this table knows that this would be completely unacceptable to any regulator or industry representative."*

As the California Coastal Commission noted in "The Implications of Tohoku Earthquake" report, the combination of strong ground motion and massive tsunami that occurred in Japan cannot be generated by faults near SONGS. The extensive investigations performed when SONGS 2 & 3 was licensed, provided the basis for conservative design and construction requirements to ensure long-term safe operations at the site. The seismic design implemented through the NRC licensing process incorporated uncertainties in earthquake sources by adopting design and construction requirements that provide SONGS 2 & 3 a safety margin to ensure that the plant will be able to withstand the design basis earthquake. SCE is not aware of any significant areas of uncertainty associated with earthquake sources applicable to SONGS. The seismic design of SONGS 2 & 3 mitigates the impact of uncertainty in earthquake sources.

An area of seismic uncertainty is the hypothesized Oceanside Blind Thrust. SCE evaluated the potential impacts of the hypothesized Oceanside Blind Thrust in 2001. In its submittal to the NRC of this 2001 evaluation, the conclusion was that the potential impacts of this hypothesized Oceanside Blind Thrust were insignificant. While SCE continues to evaluate the geologic structure and seismic potential of the hypothesized Oceanside Blind Thrust, the NI-RC fault zones continue to be the governing faults.

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[2] Briefing On The Near-Term Task Force Review Of NRC Processes And Regulations Following The Events In Japan, July 19, 2011, 9:30 a.m., transcript of proceedings.

[3] SECY-11-093-Near-Term Report and Recommendations for Agency Actions Following the Events in Japan, Commissioner Ostendorff Voting Record, July 27, 2011.

An area of tsunami uncertainty is the potential for landslide generated tsunamis. Additional studies are required to evaluate landslide generated tsunamis that may affect SONGS.

SCE is seeking approval of funding required to perform additional seismological and tsunami studies, as recommended by the CEC. SCE believes these studies will provide additional information that will address these uncertainties.

2. Progress in Completing the AB 1632 Report/2008 IEPR and 2009 IEPR Recommendations for Plant License Renewal Reviews

a. What is the status of PG&E and SCE's completion of recommendations in the AB 1632 Report, 2008 IEPR Update and 2009 IEPR including studies and actions related to seismic and tsunami hazards, plant buildings and structures, spent fuel storage, quantifying replacement power options, and reassessing the adequacy of access roads surrounding the plants?

Response:
SCE provided its evaluation of the California Energy Commission's AB 1632 report, 2008 IEPR, and 2009 IEPR recommendations in February 2011. Topics covered in the evaluation included:

- Seismic and Tsunami Hazards, Plant Buildings & Structures
- Nuclear Safety Culture
- Replacement Power Generation
- Economic Impact
- Adequacy of Maintenance Programs
- Used Fuel Storage
- Low Level Radioactive Waste
- Emergency Preparedness, including adequacy of access roads
- Ground Water Protection
- Worker Training and Recruitment
- Once Through Cooling

SCE completed its evaluation of recommendations addressed to SONGS 2 & 3, with the exception of additional seismic studies and the quantification of replacement power options. SCE submitted an application to the CPUC for funding of the additional seismic and tsunami study work recommended in the AB 1632 report. SCE plans to submit a request to the CPUC for funding the processing of a license renewal application at the NRC. The CPUC filing will include a cost-effectiveness analysis of continued operations at SONGS 2 & 3 compared to replacement power generation options.

b. How will PG&E and SCE ensure that these additional seismic analyses reflect the most recent USGS and Uniform California Earthquake Rupture Forecast data base and 2-D imaging study results, that the study plans and findings are provided in a timely manner to the California Geologic Survey (CGS) and the Independent Peer Review Panel (IPRP) for review, and that the study plans and analyses will take into consideration the CGS' and the IPRP's comments and recommendations?

Response:
SCE will use the most recent USGS and Uniform California Earthquake Rupture Forecast data base to complete the seismic projects outlined in the application pending for seismic study funding at the CPUC. The results of the studies and analyses will be provided to the NRC as a part of its regulatory process and will be available to all interested stakeholders. SCE does not intend to submit study plans to the California Geologic Survey (CGS) and does not have an Independent Peer Review Panel.

c. How will these studies be provided in a timely manner to the U.S. Nuclear Regulatory Commission (NRC) and California agencies, e.g., the Energy Commission, CPUC, CGS, and the California Coastal Commission (CCC), so that these studies can be considered as part of Diablo Canyon's and SONGS' ongoing and future license renewal cost/benefit evaluations and the CCC's evaluation of consistency of the projects with the Coastal Zone Management Act?

Response:
The results of the seismic studies and analyses will be provided to the NRC as a part of its regulatory process. Information will be available to all interested stakeholders. However, given that seismic design studies inform current operations at SONGS, the results of such studies do not impact cost/benefit evaluations to measure economic impact of continuing operations at SONGS beyond its current license period.

Under NRC procedure, there is no connection between the seismic studies SCE is proposing and the license renewal process. The NRC considers seismic hazards to be an ongoing regulatory issue. The NRC addresses seismic hazard issues whenever a significant change is recognized, as part of the NRC's continuous oversight of operating reactors. The NRC does not separately reanalyze seismic hazards as part of the license renewal process. The license renewal process is focused on managing the effects of aging on plant structures and equipment. The license renewal process only extends the period of the current license and does not re-review the basis for the license. Should the NRC become aware of information that it concludes calls into question the continued safe operation of the plant, the NRC will take the appropriate actions as part of the NRC's ongoing safety oversight, regardless of whether the NRC is performing a license renewal review.

d. The National Academies in 2006 reported on the risk of fire from overheated spent fuel rods in spent fuel pools. The 2008 IEPR Update recommended that California's nuclear power plants return their spent fuel pools to less dense arrangements. Fires were reported in the spent fuel pools at Fukushima Daiichi. Nuclear plants are storing spent fuel in pools in configurations at far greater densities than the original plant design. What progress has been made in returning the spent fuel pools to less dense arrangements? If no action has been taken to modify the spent fuel pool racking to a less dense configuration, please explain why.

Response:
Storage of used fuel in pools and in dry storage have both been identified by the NRC as safe storage methods. "Southern California Edison's Evaluation of California Energy Commission AB 1632 Report Recommendations," which was submitted to the CPUC and CEC on February 2, 2011, includes SCE's plan for the safe and secure storage of used fuel. The original storage capacity for SONGS 2 & 3 was 1,600 used fuel assemblies. Re-racking is not required or needed to safely store 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, given that it has no additional safety benefit, result in additional unnecessary cost. We note that the NRC's investigation of Fukushima Daiichi indicates that were no fires in the spent fuel pools.

3. Implications of Events at the Fukushima Daiichi Plant for California's Operating Nuclear Plants

a. Should older nuclear power plants, particularly in high seismic hazard areas, be held to more stringent standards during plant license renewal reviews than are applied to new reactors, based on insights from the Fukushima Daiichi plant disaster?

Response:
No, older nuclear plants should not be held to more stringent standards during plant license renewal reviews. This suggestion ignores the requirements of the current license basis of existing plants. SONGS 2 & 3 were designed with large margins to account for uncertainty and ensure safety. If more stringent seismic standards were to be implemented, they would apply to both new and older plants. Such standards would be evaluated for each plant under its existing license to determine effects on current operations. That is because seismic hazard issues are relevant to the current operation of the plant and are not an issue addressed in the NRC's license renewal process. The license renewal process extends the period of the license and does not revisit the existing licensing basis.

b. Extreme events have been considered so highly unlikely at U.S. nuclear plants that they are covered by voluntary "severe accident management guidelines" to plant operators rather than mandatory actions. NRC plant inspections in March revealed failures at some plants to keep these emergency guidelines and training up-to-date. Are current federal rules for "beyond design basis events" adequate or should they be changed?

Response:
The NRC's Fukushima Near-Term Task Force[4] has provided recommendations that address a review of Emergency Operating Procedures, Severe Accident Management Guidelines, Extensive Damage Mitigation Guidelines, Design Basis Events, and Beyond Design Basis Events. The NRC's review and evaluation of the Near-Term Task Force recommendations will determine if rule changes are necessary.

c. How is the possibility of extreme events affecting multiple reactors at a single site or multiple threats to nuclear plants, such as a fire and an earthquake, or flooding and an earthquake, that cut off power for a plant's emergency equipment and spent fuel cooling handled at Diablo Canyon and SONGS?

Response:
SONGS has processes to handle extreme events such as a fire and an earthquake, or flooding and an earthquake that cut off power for the plant's emergency equipment and spent fuel cooling at both SONGS units, as was discussed at the IEPR Nuclear Workshop on July 26, 2011. SCE confirmed existing capability to respond to extreme events described in the B.5.b Mitigation Strategies – actions to address extensive plant damage following large explosions or fires – and Severe Accident Management Guidelines – actions to address malfunctions beyond design conditions, even core melt. While these processes were created as a result of other events, their implementation would address some of the symptoms following a Fukushima–like event.

The NRC's Fukushima Near-Term Task Force 90 day report makes recommendations that would address extreme events affecting multiple reactors at a single site or multiple threats to a nuclear plant. The NRC will determine how to implement such recommendations, if adopted, to the current operations of nuclear generating facilities.

[4] "Recommendations for Enhancing Reactor Safety in the 21st Century," July 12, 2011.

d. How do the original seismic and tsunami design requirements and expected ground motions for Fukushima Daiichi compare with the observed shaking and tsunami impacts following the Tohoku earthquake and tsunami? In light of the findings about the Tohoku Earthquake event, what studies are underway at Diablo Canyon, SONGS and Humboldt Bay to validate the data and parameters for the predicted seismic/tsunami hazards for these California plants?

Response:
Detailed and accurate information regarding the Fukushima seismic and tsunami design requirements compared to the observed impacts are not yet available. Additionally, there is information that suggests the Fukushima Daiichi design did not incorporate available data.

NRC Commissioner Apostolakis[5] in a recent Commission meeting stated: (Commissioner Ostendorff[6] concurred):

> *"… there is growing evidence that the historical record of tsunamis had not been used properly to determine the design basis at Fukushima Daiichi and, consequently, the protection of the plants was not sufficient. The accident was not of extremely low probability, i.e., it was not "unthinkable."*
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> – He also stated, "*I recently reviewed the probabilistic analysis of the sequence that included the historical evidence of tsunamis, and it turns out that what happened there would have had a frequency of about one in a thousand years, and everybody around this table knows that this would be completely unacceptable to any regulator or industry representative."*

However, the NRC's Fukushima Near-Term Task Force issued a summary and sequence of events in their 90 day report. They also draw some conclusions based on preliminary information:

– Sequence of events like the Fukushima accident is unlikely in the United States
– Continued operation and continued licensing activities do not pose an imminent risk to public health and safety

With regards to seismic/tsunami studies, SCE has plans to perform additional seismic/tsunami studies at SONGS in response to the AB 1632 recommendations, and is awaiting CPUC approval of funding for those seismic/tsunami studies.

e. The Fukushima Daiichi crisis was significantly worsened by having multiple damaged reactors in close proximity in the same area, radiation levels too high to allow workers safe access to crucial equipment, hydrogen explosions,

[5] Briefing On The Near-Term Task Force Review Of NRC Processes And Regulations Following The Events In Japan, July 19, 2011, 9:30 a.m., transcript of proceedings.

[6] SECY-11-093-Near-Term Report and Recommendations for Agency Actions Following the Events in Japan, Commissioner Ostendorff Voting Record, July 27, 2011.

inability to assess real-time reactor and spent fuel pool conditions, and losing emergency diesel generators and batteries and spent fuel cooling. What should be done or has been done to avoid and mitigate similar conditions and problems at Diablo Canyon and SONGS?

Response:
The NRC's Fukushima Near-Term Task Force has provided recommendations that address a review of Emergency Operating Procedures, Severe Accident Management Guidelines, Extensive Damage Mitigation Guidelines, Design Basis Events, and Beyond Design Basis Events. Once the NRC has completed its review of the Fukushima event, new requirements for US nuclear reactors may be developed. SCE is participating with industry groups and the ongoing process at the NRC to determine and implement the most effective set of actions. SCE will address the NRC's new requirements at that time.

f. What are some of the likely major environmental, safety and economic implications for Diablo Canyon, SONGS, and Humboldt Bay from the lessons learned reviews following events in Japan by the NRC, International Atomic Energy Agency, Institute of Nuclear Power Operations and others? For example, what are the likely impacts on spent fuel pool management, preparing for beyond design basis threats, the estimated costs for new and existing nuclear power plants, license renewal reviews, plans for providing back-up emergency power and water cooling for reactor cores and spent fuel pools, and protection from hydrogen explosions?

Response:
See response to question 3.e.

g. What are the areas of uncertainty regarding the condition of the spent fuel and packaging after decades of storage at a reactor site before being transported offsite to a storage or disposal facility? What are the intergenerational equity considerations (net risks and benefits) of extended spent fuel storage at reactor sites, e.g., decades or up to 100 years, prior to transport offsite for storage or permanent disposal?

Response:

SCE's plans for the storage and management of used fuel in an Independent Spent Fuel Storage Installation are consistent with the NRC's position that used fuel can be safely stored for at least 60 years beyond the operating license (which may include license renewal) in a used fuel pool or dry cask storage system.[7]

[7] "Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation; Waste Confidence Decision Update; Final Rules," 75 Fed. Reg. 81,032-81,706(Dec. 23, 2010) (to be codified at 10 CFR pt. 51).

SCE has not estimated the costs for relying indefinitely upon onsite storage facilities. 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 cannot be performed as there is no other existing alternative to onsite storage.

SONGS 2 & 3's decommissioning trust fund (required by NRC regulations) accumulates the funding (prior to the expiration of the licenses) required to dismantle and dispose of the plant and associated facilities, such as office buildings and warehouses. The funds also provide for the safe storage of used nuclear fuel on-site until the Department of Energy takes ownership of the fuel.

h. What are some of the recommendations to reduce the likelihood of and mitigate potential station blackouts (loss of offsite power and onsite emergency power) and loss of cooling lasting longer than plant design assumptions? The practice of providing four- and eight-hour batteries assumes that outside power can be promptly restored. Please describe the plans and preparation for an extended station blackout and/or loss of emergency cooling, regardless of the initiating event, at Diablo Canyon and SONGS.

Response:

SONGS has processes to handle extreme events such as station blackout or loss of emergency cooling, as was discussed at the IEPR Nuclear Workshop on July 26, 2011. SCE confirmed existing capability to respond to extreme events described in the B.5.b Mitigation Strategies – actions to address extensive plant damage following large explosions or fires – and Severe Accident Management Guidelines – actions to address malfunctions beyond design conditions, even core melt.

The NRC's Fukushima Near-Term Task Force's recommendations are currently being reviewed by the Commission. Once the NRC has completed its review, the NRC will likely issue new requirements for US nuclear reactors. SCE is participating with industry groups and the ongoing process at the NRC to determine and implement the most effective set of actions. SCE will address the NRC's new requirements at that time.

i. The Kashiwasaki-Kariwa plant in Japan was badly damaged in 2007 and four years later, three of the seven reactors remain offline with cumulative energy replacement costs estimated to be in the billions of dollars. Most, if not all, of the six reactors at the Fukushima Daiichi plant will never resume operation. What are the California utilities' plans for replacement power if there are any significant long-term outages at Diablo Canyon and SONGS?

Response:
Replacing power from a hypothetical dual-unit outage of longer than 90 days or longer than one year, would follow the plans outlined below:

Grid Reliability and Transmission Stability

SONGS 2 & 3 is the largest electric generation plant in southern California. The plant is located geographically between two major load centers in Los Angeles/Orange and San Diego counties. [The two major load centers refer to the metropolitan areas of the SCE and SDG&E service territories, however southern California is also comprised of other municipal and public agency utilities including Los Angeles Department of Water and Power (LADWP), Imperial Irrigation District (IID), Metropolitan Water District of Southern California (MWD), and the City of Riverside.]

SONGS has been an integral part of the electric grid in southern California, providing power delivery, voltage support, import capability and transient stability support for the last 43 years. As the electric grid has grown it has relied on the electric system reliability attributes provided by SONGS.

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. [Applicable system-reliability standards include those issued by the California Independent System Operator (CAISO), Western Electricity Coordinating Council (WECC), and North American Electric Reliability Corporation (NERC). 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. [Controlled rolling blackouts would be implemented in accordance with operating procedures and nomograms, however these procedures would need to be revised to account for the long-term outage of both SONGS units.] 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.

Planning Process

SCE is required to meet its customer's energy, ancillary service, and capacity needs for electrical energy. SCE takes guidance on those needs from various sources including the CPUC, and the CAISO. Examples of areas where guidance is forthcoming are (1) the CPUC Planning Reserve Margin (PRM) which is currently set at 15% above the average-year peak hour load in a given month, and (2) Local Area Requirements (LAR) from the CAISO's annual Local Capacity Requirement (LCR) studies. The LCR study takes into account various outage contingencies as does the PRM including extended generation facility outages. Currently, it may require multiple years to replace generation facilities due to the planning, permitting, regulatory approval, and construction time lines. The CPUC's review of the PRM requirements should also consider such an event as well as any other state policy needs.

To the extent that any SCE bundled customer's energy and capacity needs are not met if SONGS has an outage longer than 90 days, SCE may need to seek bids from wholesale energy markets to procure replacement power. The timing and method of such procurement may vary. In addition to reviewing the cost of replacement power, SCE does financial modeling to measure the procurement cost risk associated with portfolio changes, including changes in SCE's "must-take" resources such as run-of-river hydro, intermittent renewable resources, and nuclear resources.

SCE engages in a review of its fleet of energy producing resources and adjusts its procurement activity on a daily basis. Included in the fleet of energy resources is SONGS, which is a major element. The fleet, or portfolio, of energy resources changes quite often due to various factors such as planned or forced outages. In addition, other frequently-changing elements affect SCE's customer requirements for generation such as the load or market price forecast. SCE's procurement process calculates those requirements taking into account all of these factors for the next hour, next day, next month, next year, and several years out in the future and then adjusts its procurement strategy as necessary.

j. Tokyo Electric Power likely will face billions of dollars in compensation and mitigation costs following the Fukushima nuclear plant accident. If a similar crisis were to occur at Diablo Canyon or SONGS, what is the available liability coverage in the U.S. and who likely would be ultimately responsible for covering these costs?

Response:
SCE and other owners of SONGS 2&3 have purchased the maximum private primary insurance available through American Nuclear Insurers (ANI). This

liability insurance broadly provides coverage for off-site damages from bodily injury or property damage caused by a nuclear energy hazard (i.e., the radioactive, toxic, explosive or other hazardous properties of nuclear material), as well as for environmental damage. ANI provides coverage for the first $375 million of liability, with no deductible. Federal regulations require a secondary level of financial protection, provided for SONGS by Price-Anderson. Price-Anderson provides additional coverage of approximately $12.2 billion, which is funded through an assessment on all operating reactors in the U.S.

k. **Given NRC's recommended evacuation zone of a 50-mile radius surrounding the Fukushima Daiichi plant, are current emergency plans and emergency planning zones, adequate for Diablo Canyon and SONGS?**

Response:
Following the March 11, 2011 events at Fukushima Daiichi, the NRC on March 16, 2011, provided protective action recommendations for US residents within 50 miles of the Fukushima reactors to evacuate. The decision to recommend evacuation of U.S. citizens out to 50 miles from the Fukushima Daiichi facility was a conservative decision that was made out of consideration of several factors including an abundance of caution resulting from limited and unverifiable information concerning event progression at several units at the Fukushima Daiichi facility. The NRC based its assessment on information available at the time regarding the condition of the units at Fukushima Daiichi that included significant damage to Units 1, 2, and 3 that appeared to have been a result of hydrogen explosions.

To provide some context to the NRC's recommendation of March 16, each nuclear plant in the U.S. must establish two emergency planning zones (EPZ)[8] established around the nuclear power plant. The first zone, the 10-mile EPZ, is where exposure from a radiological release event would likely be from the radioactive plume, and it is in this EPZ where protective actions such as sheltering and/or evacuation would be appropriate. The second zone, beyond the 10-mile EPZ and out to a 50-mile EPZ radius from the plant is the ingestion exposure pathway zone, where potential exposure to radionuclides would likely be from ingestion of contaminated food/milk and surface water.

The NRC remains confident that its current regulatory framework for emergency preparedness, including the establishment of an EPZ, and the flexibility to respond to emergent radiological conditions, as necessary, provides adequate protection for the health and safety of the public.

[8] 10 CFR 50.47(c)(2) with guidance in NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparednesss in Support of Nuclear Power Plant.

This information was obtained from the NRC's "Expanded NRC Question and Answers related to the March 11, 2011 Japanese Earthquake and Tsunami (June 14, 2011)."

4. In response to Commissioner Weisenmiller's specific request during the "2011 Integrated Energy Policy Report Committee – Nuclear Issues Workshop" on July 26, 2011, SCE is providing the following links for the record:

   1) Briefing on the Task Force Review of NRC Processes and Regulations Following Events in Japan http://pbadupws.nrc.gov/docs/ML1118/ML111861807.pdf

   2) The July 19, 2011 associated summary slide deck http://pbadupws.nrc.gov/docs/ML1118/ML111861807.pdf

   3) The July 19, 2011 associated transcript http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2011/20110719.pdf

   In addition, the following votes of two NRC Commissioners from July 19, 2011 for the Task Force report are also available:

   http://www.nrc.gov/reading-rm/doc-collections/commission/cvr/2011/2011-0093vtr-kls.pdf

   http://www.nrc.gov/reading-rm/doc-collections/commission/cvr/2011/2011-0093vtr-wdm.pdf

5. In response to Commissioner Boyd's request during the workshop, SCE is providing information on the local population at the time of SONGS 2 & 3 original licensing and today.

	1980 Census	2010 Census
San Clemente	27,325	63,522
Camp Pendleton north	8,233	5,200
Dana Point	18,959	33,351
San Juan Capistrano	10,602	34,593
	65,119	136,666