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A NUCLEAR-FREE FUTURE FOR CALIFORNIA

DATE: September 8, 2009
TO: California Energy Commission
RE: SCE Data Request Set for SONGS

DOCKET**09-IEP-1L**

DATE SEP 08 2009

RECD SEP 08 2009

Comments regarding SCE response to CEC inquiries for 2009 IEPR. Comments are divided into two categories: Queries of unresolved or incomplete answers followed by Alliance recommendations (where applicable).

A.01 SCE provides neither answers to, nor explanation for not answering any of the issues surrounding Once-Through-Cooling and preservation of the marine environment that are raised in question A.01. This is curious, as in their supporting documents they do provide a copy of 2008 study (item SONGS~4.pdf) entitled: "Comprehensive Demonstration Study for Southern California Edison's San Onofre Nuclear Generating Station Final Report, January 2008" which investigates responses to analysis of Clean Water Act section 316b on mortality and impacts of impingement and entrainment on the marine environment. Why is this not referenced, nor is question A.01 answered?

RECOMMENDATION: A4NR recommends that SCE be required to answer this question.

A.02 SCE's latest report on the leak of Tritium from Unit 1 is dated 11/20/2006. At that time, it provides no conclusive reason for the leak.

RECOMMENDATION: A4NR asks for answers to the following questions: Since 2006, has a definitive cause for the tritium leak been determined? SCE notes that all contaminated soil and groundwater will be removed and disposed. If this has been completed, what was the cost of this procedure, and was it a ratepayer or shareholder expense? If not, completed, when is completion of the removal and disposal anticipated? If the leak did involve the spent fuel pool at Unit 1, what "lessons" learned or ongoing actions will be applied to the existing spent fuel pools at Units 2 & 3 to insure that there is no recurrence of this problem?

C.03 SCE does not separately identify costs for O&M of the spent fuel pools and intends no capitol investments.

RECOMMENDATION: While SCE claims costs are "embedded," does this mean they are unable to parse the requested numbers from their accounting or original O&M calculations? A4NR requests that SCE respond in full to the CEC's data requests. In addition, when no

“capitol investments” are anticipated, does this mean that SCE has no intention of studying or adopting the recommendation of the NAS that separate and independent sprinkler systems be installed in the spent fuel structures to reduce or mitigate spent fuel fires?

C.04 The table attached to SCE’s answer to this question shows that from the year 2023 through 2034, approximately 200 fuel assemblies are removed each year and placed in the ISFSI, until the pools are emptied. Is this rate of removal governed by a technical requirement, or determined by the economics of the labor force and/or equipment needed to perform the operation? Could this process be accelerated?

RECOMMENDATION: A4NR asks that SCE be required to indicate if the rate of transfer of spent fuel from the pools to the ISFSI can be accelerated (as recommended by the NAS) and if so, what would be the requirements in terms of labor and costs.

C.05 SCE states that it intends to store all 4992 assemblies created by the initial 40-year license in the ISFSI by 2034, “absent any changes in plant operation.” What defines “changes in plant operation?” Does this mean that if one unit undergoes an extended outage (for example, a full 18 month operation cycle) then proportionately less long-term waste is created? Or do “changes in plant operation” imply the possibility of license extension for 20 more years, and subsequently, the creation of more waste, which would keep the pools filled and the ISFSI not fully utilized?

In addition, at a presentation before the CEC on 9/25/08, a Powerpoint presentation by Barbara Byron and Steve McClary entitled: “AB 1632 Assessment of California’s Operating Nuclear Plants” had the following slide on page 13:

“SONGS will run out of spent fuel storage capacity just before the plant’s current license expires.” This information is at odds with the SCE testimony before the CPUC that SONGS had adequate storage for its current license period waste AND any 20 year renewal. Does that mean “pool” storage exclusively? And would SCE intend to keep waste created during a license renewal period in pools beyond the 5-12 years required for cooling before transfer to the ISFSI, or would waste from a license renewal be moved to an ISFSI as soon as it was technically possible to do so?

RECOMMENDATION: A4NR asks for clarifications of SCE’s definitions and intentions regarding the long-term storage of high-level radioactive waste.

C.06 SCE has in previous public testimony and at public hearings generally stated that spent fuel requires a cooling-off period of at least five years before it can be loaded in a cask. PG&E has said the same. However, it appears that the cooling off period can now be longer than a decade? What is the reason for this great variance?

RECOMMENDATION: A4NR asks for clarification on “cooling-off” period for spent fuel.

C.08 SCE is unable to project what, if any, repackaging would be required for the spent fuel stored on-site, should a future national repository for waste open.

RECOMMENDATION: A4NR notes that the planning for Yucca Mountain has been underway for over a decade, with various scenarios for waste transport elaborately detailed by the DOE, who fully believed the project would be in operation at this writing. Whether the utility is able or not to project the need for repackaging of waste, the CEC should require at the very least a study on the potential costs, particularly if there is no clarification from either DOE or the utilities on who will bear the cost of this repackaging, if any. Such a long-term cost must be accounted for in assessing the benefits and risks of relying on nuclear power into the future.

C.10 SCE states that one failed fuel assembly is still in the spent fuel pool and has not been transferred to the ISFSI. Why? In addition, is there a difference in the number of failed versus non-failed fuel assemblies that can be stored in the NUHOMS casks? How many failed rods can be accommodated within a “rod storage basket” with the racks of Units 2 & 3? How many failed “rod storage baskets” can be accommodated in the used fuel pools for Unit 2, and how many for Unit 3?

RECOMMENDATION: A4NR requests specific answers to the above questions.

C.12 SCE “has not estimated the costs of relying indefinitely upon onsite interim storage facilities.”

RECOMMENDATION: A4NR reminds the CEC that the current federal administration has halted all current funding for a national nuclear repository. Absent any renewed plan, it is conceivable that California’s nuclear power plants could become defacto permanent sites. Therefore, requiring the utilities to estimate the costs of indefinite onsite storage should be required on behalf of all California ratepayers, and must be a prerequisite to any permission to consider application for license renewal. Likewise, a cost-benefit study of the potential risks must be completed prior to any consideration of license renewal.

C. 13 SCE states that they have the space on site to accommodate all used fuel generated through initial license period, which ends in 2022. However, they do not state *where* and *how* on the site they will store the used fuel. In other words, does SCE intend to honor the timetable for fuel removal as indicated in the chart attached to answer C.04 and have all fuel removed from the pools by 2034, or is it possible that the last fuel generated before the current license expires will remain in the pool indefinitely? Is any fuel anticipated to remain in the pool indefinitely? How are these plans altered if a license renewal is granted?

RECOMMENDATION: A4NR requests that the CEC strongly consider that any request for license renewal or extension require a firm plan and comprehensive evaluation of the strong possibility that absent a federal repository, the California coastline may become such a permanent high-level nuclear waste repository, and therefore the costs/risks/benefits must be fully evaluated.

C.14 SCE states that the NUHOMS storage casks are licensed for 20 years, potentially renewable for 20 more (total of 40 years) but have a study that estimates a 55-year life for the canisters. What is the longest period that any NUHOMS horizontal, modular storage system has been in use to store radioactive fuel assemblies to date? In addition, SCE states that before the expiration of the design life of the components they will be required to assess how much “life remains with adequate safety margin.” Given that many major nuclear components—all of which were approved and certified by the NRC (i.e. steam generators) have not lived up to their expectations and failed prematurely—how will SCE provide a guarantee of “adequate safety margin?” If remedial action is needed at a future date, SCE says, “The cost will depend on what actions are needed as determined from the inspection and assessment of the materials.”

RECOMMENDATION: A4NR does not believe the CEC can create an adequate energy plan for California’s future when cost assumptions about future waste storage issues will only be known “in the future.” Steam generators—subject to constant radioactive bombardment that had not been anticipated—became embrittled, and failed at dozens of reactors. This resulted in excessive ratepayer burdens. Dry storage waste canisters might suffer the same fate, and there exists that potential that 20 years into their expected lives—much like the steam generator crisis—there could be a massive nationwide problem among utilities. Imagine all that waste, and prematurely failing canisters. The costs of having to repackage that waste in a way that maintains public safety cannot be left as a vast “unknown” in California’s energy plan. A4NR recommends that any request for license renewal by a nuclear utility in California must provide a cost estimate for dealing with this potential failure.

C.15 SCE has made no changes to its spent fuel racking configuration.

RECOMMENDATION: A4NR requests that the CEC ask if SCE intends to explore or implement the NAS recommendation to study reducing the density of their spent fuel pools to therefore reduce the risk of fire in those pools.

C.16 SCE estimates a cost of \$230 million to construct and fill the SONGS ISFSI with spent fuel from a 20-year license renewal.

RECOMMENDATION: A4NR would request the documentation supporting this cost estimate.

C.17 SCE does not make available the costs for maintenance, operation and security of the ISFSI for the plants current license, or 25 years beyond that date. It claims the costs are embedded in the total O&M costs, and says it “has not developed an estimate of such costs through the end of the current operating license.”

RECOMMENDATION: A4NR asks that these costs be separated to provide adequate responses for CEC planning purposes. Why can they not be separated? In addition, if SCE has not developed a cost estimate of separate O&M plus security for the ISFSI through the end of the current license, A4NR believes it is irresponsible planning to permit any consideration of license renewal until all ratepayers can analyze and comment on the potential wastes storage costs.

D.01 “SCE plans to safely store its spent fuel onsite in the ISFSI and in its spent fuel pools, as necessary, until DOE meets its acknowledged obligations to remove the spent fuel from the site.” A4NR requests clarification from SCE on their intentions to continue to store spent fuel in its pools “as necessary...” until there is an offsite repository. Does this imply that fuel might be kept in the pools indefinitely, or is all fuel—including that generated by a license renewal—going to be placed into dry storage? As spent fuel pools require “active” maintenance (as opposed to the “passive” nature of the ISFSI) any extension of the life and use of the spent fuel pools will involve a greater cost. This cost must be known to ratepayers.

RECOMMENDATION: A4NR notes that the unresolved and seemingly intractable problem of solving the long-term storage of high-level radioactive waste (now over a quarter of a century since the 1982 NWPA) remains an ongoing problem for nuclear power. Therefore, with the outstanding economic and security risks to California ratepayers, shareholders and residents — and unknown future costs that SCE has not provided estimates or studies for— the CEC should require that, before any utility may submit a license renewal request to the NRC, California is assured that a permanent, offsite solution to the storage of this waste has been approved by the DOE, the NRC, and has the concurrence of the state.

D.02 SCE’s understanding is that there is no current DOE spent fuel acceptance schedule for a federal repository or interim schedule.

RECOMMENDATION: A4NR believes that absent a current spent fuel acceptance schedule from DOE, it would nonetheless be useful for planning purposes to have a copy of the most recent DOE acceptance schedule for SONGS, as it is more than likely to be representative of SONGS priority in the national “pecking order” of waste acceptance. A4NR requests that this piece of information be included in the IEPR record.

D.03 SCE provides only the DOE Delivery Commitment Schedule for SONGS 1. Has there been no update since 1995? Were there no estimated “Delivery Commitment Schedule(s) as part of the Standard Contract for Disposal of Spent Nuclear Fuel” for SONGS 2 & 3 in 1995, or in any draft schedule since then?

RECOMMENDATION: A4NR requests answers to the above questions.

D.04 SCE cannot identify the number of shipments and method of shipping for sending high-level waste offsite because there is no current federal plan.

RECOMMENDATION: Absent a current plan, A4NR requests that at the very least, the most recent projections for waste transport from the DOE (for the Yucca Mountain project) be included as they indicate the methods, potential routes, and volume of material that a variety of California agencies would need to make plans for accommodating in terms of clearances, security, first response and rail/road infrastructure improvements—all of which have local and statewide cost implications.

D.07 SCE has paid (as of 2008) \$ 421 million into the nuclear waste fund.

RECOMMENDATION: A4NR asks if the state Attorney General in conjunction with the CEC could explore the possibility of transferring that money to the state or utility, as that amount is almost equal to the \$ 450 million that SCE says it will cost to build and operate the ISFSI for the first 40 years of SONGS waste. As such, there is the possibility that the money collected by SCE from ratepayers to build this \$ 450 million storage facility could then be reimbursed to ratepayers.

D.11 SCE claims that any damages it receives from lawsuit against DOE will “benefit ratepayers for costs/damages incurred on ratepayers’ behalf.” In what form will these damages benefit ratepayers? Will there be refunds, reductions in rates, or some other mechanism? What percentage of possible damages, if any, might SCE retain?

E.02 SCE provides approximate costs per cubic foot for Class B&C wastes sent to Barnwell, South Carolina. As the Barnwell site is now closed to them, they should be required to provide the actual figures for this cost rather than an approximate.

SCE says no CTCC wastes have been transported from the SONGS site. Does this also include Unit 1? Were no GTCC wastes generated during the decommissioning of SONGS 1?

SCE claims that costs for disposal of LLRW and Class A waste are proprietary.

RECOMMENDATION: The claim that these costs are “proprietary” leaves both the state and SDG&E and SCE customers at a disadvantage in calculating the true current and future costs of nuclear power. As these costs are borne by the ratepayers and NOT the shareholders, in an era of increased transparency, they should be disclosed.

F.01 SCE plans to perform seismic and tsunami assessments by year end 2010.

RECOMMENDATION: A4NR requested that any funding for license renewal studies in the last SCE general rate case be withheld until after the recommendations of AB 1632 were adopted and implemented. The Administrative Law Judge in the case agreed, but the CPUC commissioners did not. Any license renewal study funding in the last SCE GRC should be used towards seismic studies. Without a full understanding of current seismic vulnerabilities—and the AB 1632 final report made it clear that the SONGS studies are long out of date—the state’s ability to provide economical and reliable generation from SONGS remains in doubt.

F.04 SCE states that SONGS meets all seismic requirements set forth by the NRC, and that recent research by the USGS does not affect the design basis for SONGS. A4NR asks: What is the date of the last NRC review of seismic requirements for the safe operation of SONGS? When was this most recent research by the USGS completed? On what basis (and where is the data) to support SCE’s claim that the most recent USGS research does not affect SONGS? Who conducted the review of the most recent USGS research for which SCE’s conclusion was reached?

RECOMMENDATION: A4NR recommends that all information regarding this new USGS research and all updated seismic requirements as mandated by AB 1632 must be submitted and reviewed before any license renewal application can be filed with the NRC.

F.05 SCE plans to develop and form a Seismic Advisory Board and to “review the seismic hazards at SONGS periodically.” A4NR asks for a description of the professional qualifications of the people chosen for this board and that the word “periodically” as used to define the time frame for these evaluations be defined more specifically. If the first meeting was held in August, 2009, as indicated, A4NR requests copies of the agendas, attendees and documentation arising from and created at this board meeting be incorporated in the IEPR.

F.07 SCE will evaluate the costs/benefits of 3-D seismic reflection mapping. In response to F.01 they indicate such a plan may be completed by the end of 2010. If so, when would they anticipate the actual studies to commence?

RECOMMENDATION: A4NR will request that the state legislature institute legislation similar to AB 42 to require that SCE follow the CEC’s recommendation to perform 3-D seismic reflection mapping in 2010. We recommend that no license renewal applications should be allowed to be filed until such studies are complete and all recommendations implemented.

F.10 SCE will determine the relevance of the USGS National Seismic Hazard Mapping Project models to the SONGS 2 & #3 license renewal feasibility assessment. A4NR asks, which agency(ies) will be reviewing SCE’s determination of the relevance of the USGS project?

F.11 SCE’s response seems to indicate that this question will be addressed in a study to be completed by 2010. Therefore, can the CEC and public assume that in response to the CEC question, nothing has been done at present?

F.12 SCE will issue a final report on tsunami hazard by early 2011.

RECOMMENDATION: A4NR believes all results must be independently reviewed, and all recommendations adopted and implemented before SCE can submit any license renewal application for SONGS to the NRC.

F.13, F.14, F.15

RECOMMENDATION: A4NR requests that all results of seismic and tsunami studies be independently reviewed and any recommendations arising be adopted and implemented before any license renewal can be submitted to the NRC for SONGS.

F.16 SCE states that “no studies on the effects of global climate changes on SONGS are planned, underway, or have been completed.

RECOMMENDATION: The California Resources Agency as well as the USGS has recently released new studies noting advancing erosion on Southern California Beaches, specifically citing San Onofre Beach. Studies should be required analyzing how this new data will impact safe design margins for SONGS seaside location during its current term as well as any potential license renewal (including the possibility of the site becoming a permanent waste

repository) must be reviewed and any recommendations or actions must be adopted and implemented before any license renewal application can be submitted to the NRC.

G.01 SCE does not answer question G.01 regarding the status of the steam generator project at SONGS.

RECOMMENDATION: A4NR requests SCE to answer this question; while the project may not be completed, nor have begun actual “physical” construction, an update on the status of the delivery of the components, the condition of those components, and the preparation of the site and workforce should be required. Any delays in commencement of the project’s intended start date should be noted.

G.03 SCE reports as of their filing that they have no reports or compliance filings with the NRC regarding the steam generator replacement. However, as of September 3, 2009, they had scheduled a meeting at the NRC headquarters to discuss defective welds per this NRC memo:

Southern California Edison (SCE, the licensee) is requesting a meeting with NRC staff to discuss the root cause and corrective actions for the divider plate weld defects found in the replacement steam generators intended for future use at the San Onofre Nuclear Generating Station, Unit 3.

RECOMMENDATION: A4NR requests that the discussion and outcome of the meeting between SCE and the NRC be disclosed and included in the answer to question G.03

G.04 SCE refers to their answer to question I.04 as providing the schedule for the steam generator replacement. The file containing the SCE responses has no item I.04. Where is the answer to this question to be found?

RECOMMENDATION: A4NR has requested a “stay” on this project and Senator Barbara Boxer and state senator Kehoe have submitted questions regarding SCE’s preparation and abilities to perform this work. The questions of the senators and SCE’s responses to this legislative oversight should be included in the 2009 IEPR.

G.05 SCE attaches documents reporting on “lessons learned” from containment dome cutting in other steam generator replacements. A4NR requests SCE to disclose whether these “lessons learned” are from cases where the containment domes had to meet the same seismic requirements as the SONGS location, and whether the lessons were learned by the same contractor that will be performing the work at SONGS.

G.07 For all major retrofit projects listed in response to G.07, A4NR requests that SCE provide the original estimates for the design life of these components, the original costs, and any reports, studies or filings related to premature failure of these components.

H.01 In response to H.01, SCE states, "...current decommissioning cost estimates for SONGS 1 and Songs 2&3, filed with the CPUC in A.09.04.009 were based on assumptions that (1) DOE will commence removing fuel from domestic nuclear power plants in 2020 at a take-rate priority ranking consistent with the DOE's July 2004 Acceptance Priority Ranking and Annual Capacity Report...." Since the current federal administration has pulled support for the Yucca Mountain project, these "2020 take rates priorities" are no longer valid, and therefore, these costs, based upon "assumptions" must be recalculated.

H.02 SCE states: "See responses to questions E.1 and E.4" but no such responses are found in SCE's response document. A4NR requests the answers to these questions.

H.06 SCE states that it will be sending its old steam generators offsite for disposal. However, PG&E is keeping the Diablo Canyon used steam generators onsite, as is Palo Verde. Please explain why SCE does not plan to keep the generators onsite. What is the cost difference between onsite storage and shipping the old steam generators for offsite disposal?

J.04 SCE states that, "it does not anticipate any potential shortage of uranium." This answer is in direct opposition to PG&E, whose answer to the same question was: "By 2015 there could be a serious shortage of uranium supply to cover the base worldwide requirements."

RECOMMENDATION: With such divergent answers from California's two major IOUs, the CEC should require backup documentation for these predictions AND should require independent studies of future uranium supplies and projected costs.

K.04 When added together, SCE's insurance coverage for outages and replacement power, over a three year period, add up to \$ 486 Million. However, when the unanticipated Kashiwazaki-Kariwa earthquake in 2007 shuttered the Japanese reactor near that fault, costs of replacement power and repairs far exceeded that amount. According to the Japanese newspaper Mainichi Daily, (Japan February 15, 2009): "The ministry said that since thermal power has been used to cover the decreased supply of electricity, about 600 billion yen (\$6 Billion U.S.) will be required additionally for fuel and other expenses, and annual carbon-dioxide emissions will increase by roughly 30 million tons in fiscal 2008." Granted, the K-K plant's output at the time was triple that of San Onofre, but the replacement costs were more than 10 times SCE's replacement insurance payout.

RECOMMENDATION: In light of the disruption of service that an unanticipated seismic event can cause, and the evidence from the recent examples in Japan, A4NR requests that the CEC require SCE to re-evaluate their level of insurance protection from such unanticipated outages, as the current level of possible underinsurance may put California ratepayers at a high level of exposure.

I.03 SCE has not prepared estimates of costs of replacement power for SONGS during the period 2001-2008. Is there any reason why they cannot prepare not only estimates but actual costs? They did provide a dollar amount for the replacement power for the Palo Verde reactor in 2006, so some data must be available. Songs Unit 3 had very poor annual capacity factors for

2001, 2004, 2006, and 2008. There was an extraordinary outage in 2001—during the height of the “California Energy Crisis,” so data on replacement power costs must exist.

RECOMMENDATION: A4NR requests the CEC to require this financial data from SCE as replacement costs are a direct indicator of the consequences of any nuclear unreliability of generation and must be considered a factor in energy planning and forecasting for the state.

I.05 SCE in their response states that their most recent studies regarding plans for replacement power for SONGS beyond 2020 date from 2004 and are already outdated and invalid.

RECOMMENDATION: A4NR would request that the CEC require new and updated studies in response to this question of replacement power for songs beyond the expiration of its current license before any application for relicensing can be submitted to the NRC.

I.06 SCE’s response appears to indicate that it does not have plans in place to replace power for SONGS outages over 90 days other than it “may need to go to the wholesale energy markets to procure replacement power.” Going to the wholesale energy markets during unplanned outages hasn’t worked too well for SCE and SDG&E ratepayers in the past. If there is a more specific and defined plan, it is not clear in SCE’s response.

I.07 A4NR repeats its comments for I.06 in response to I.07 and adds that the costs to ratepayers could result in major investments and possible “rate shock.”

I.08 No answer provided by SCE. Are they declaring this “privileged” information, and if so on what grounds?

I.10 SCE’s answer discusses potential “sources of energy as replacement power, but is vague in actually describing those sources. Would such sources be renewable? Natural gas? Hydroelectric? Would energy efficiency be considered a “source,” particularly in a time of crisis? A4NR seeks a broader, more specific answer to this question.

L.01 SCE states that “...While all studies may not be complete when the CPUC application is submitted, sufficient information will be available to grant SCE’s request” for license renewal study and funding.

RECOMMENDATION: A4NR is prepared to document that California ratepayers have been historically underserved by the state’s reliance on incomplete and often unverified information. Original estimates for SONGS construction were under \$400 million and the final price tag was \$ 4.7 billion. Large components designed to last the full forty-year design life of the plant are failing at the halfway point and being replaced at an additional cost in excess of a billion dollars. Highly radioactive waste that the federal government promised to remove from California’s fragile shores under the 1982 Nuclear Waste Policy Act is now being stored in casks onsite, and the only proposed permanent solution is no longer an option. In addition, a recent statement by the chairman of the NRC infers that removal of highly radioactive waste to a permanent offsite facility is not “urgent.”

Therefore, A4NR requests--on behalf of California ratepayers--that the CEC require all studies be completed, and any recommendations be adopted and implemented, before SCE is allowed to file with the NRC for any possible license renewal.

L.02 SCE states that “The NRC requires an environmental review and a safety review. Work to assess the environmental impacts associated with the license renewal feasibility study began in January 2009. A draft of the environmental report will be prepared by the end of 2009.

RECOMMENDATION: California should be aware that the NRC has approved license renewals for 54 reactors at 29 sites, and have done so without a current assessment of the generic environmental impacts associated with license renewals

(<http://www.nrc.gov/reactors/operating/licensing/renewal/applications.html>)

A4NR recommends that the state CEC and CPUC follow and comment on the NRC’s upcoming GEIS review and rulemaking process.

SCE also replies that “Also included in the environmental (NRC) review is an analysis of severe accident mitigation alternative (SAMA) strategies; this study will be started in 2010.

RECOMMENDATION: The absence of a current environmental review in an analysis of SAMA strategies is a significant missing factor in NRC reviews and has already resulted in large expenditures of resources from state agencies and NGOs who have questioned the lack of SAMA plans. Repeatedly, this issue has been introduced and denied in license renewals and onsite storage challenges. California owes it to SCE ratepayers and state residents to require that all studies are completed, independently reviewed, and all implementations adopted before any license renewal application can be filed with the NRC.

SCE states that “The earliest date for filing the NRC application for SONGS license renewal is the fourth quarter 2012.”

RECOMMENDATION: A4NR believes the state’s energy planners must determine the *latest* date possible for filing a license renewal in order to allow the most time possible to study all the costs/risks and benefits of continuing to use aging nuclear power plants and the continued impacts of accumulating radioactive waste on the state’s coastline. Determining the latest date possible (and currently the NRC can process relicensing in less than 24 months) allows enough time for a responsible energy generation transition.

M.02 SCE does not segregate total revenue requirements for SONGS by year; however PG&E did provide similar data for Diablo Canyon. SCE should be required to do the same.

M.03 SCE’s response refers to pages in a CPUC document, rather than citing or attaching the document, making it difficult for the public to comment. It would be helpful for SCE to provide a link to the pages in the decision of its 2007 GRC. SCE has stated it plans to pursue the next steps towards license renewal in 2010 and it is now nine months into 2009. It would seem that by this point SCE would at least have some preliminary projected costs that would be useful for CEC planning. In addition, A4NR questions how SCE can submit a request for funding for license renewal to the CPUC in 2010, when they won’t have the full answers to the requirements

of AB 1632 until 2012—and some of those AB 1632 conditions may greatly alter the cost estimates for any future operation of the plant.

M.04 SCE states, “The estimated percentage of employees at SONGS that may retire over the next five years is approximately 25%. The actual percentage of employees eligible to retire is higher than this, but is not deemed realistic.”

RECOMMENDATION: A4NR believes that the actual percentage would be useful for resource planning. In addition, SCE fails to explain why they do not deem the actual percentage to be “realistic.” In addition, A4NR has discussed the impacts of aging workforce and possible reduction in safety margins with the Nuclear Regulatory Commission’s Inspector General’s (IG) office. The IG has found our concerns to be valid and has tentatively agreed to do an audit of the industries aging workforce, increased special oversight decisions and possible reductions in safety margins. SCE may or may not be aware of this proposed audit.

Finally “SCE commenced hiring in advance of expected retirements in 2003 and continues this effort today.”

RECOMMENDATION: A4NR is concerned that this hiring and training may not be adequate as the past three consecutive years of NRC end-of-cycle reports cite "human performance" and "problem identification and resolution" problems. The Alliance has requested a stay in the steam generator replacement project due to these precursors to safety problems and recommended to the NRC, Senator Boxer, Senator Kehoe and the CEC that SCE perform a minimum of two quarters without these "deficiencies".

SCE has not provided current or estimated future costs of training programs. Also missing are the costs of housing and living near SONGS, although SCE mentions using “enhanced hiring sign-on bonuses” and “enhanced use of monthly housing allowances.” Both issues were discussed in the 2007 CPUC/SCE/GRC and should be provided by SCE. A4NR believes these expenses needed for retaining and hiring new workers may be an unwarranted burden on ratepayers and such costs need to be figured into any cost/risk/benefit study.

M.05 Although SCE responds that “SONGS does not foresee shortages in key reactor materials and components,” should a nuclear “renaissance” actually occur there could be delays, cost overruns, or other factors that could result in shortages. SCE did not “foresee” replacing steam generators, reactor vessel heads, turbine rotors, etc, when it estimated full lifetime costs for SONGS. Recently replacements for large steam generators were provided by Japan making these projects dependent on the foreign political and financial markets and subject to international competition for materials and components. A recent example would be the huge jump in uranium prices worldwide.

RECOMMENDATION: A4NR believes that a more transparent, complete and up-to-date record will benefit future decisions on the state’s dependence on aging reactors and for economic and reliable energy planning.

M.06 A4NR has not followed emergency planning at SONGS as closely as we have at Diablo Canyon. However, the NRC is currently in the process of reviewing and updating its emergency planning criteria and SCE's response should be re-evaluated when new rules are reviewed, adopted and implemented.

RECOMMENDATION: A4NR recommends that California oversight agencies review and comment on the NRC's draft criteria for emergency planning.

M.09 SCE discusses the recent NRC end-of-cycle report which identified "a cross-cutting theme in human performance was identified involving instances of failing to provide adequate procedures or work instructions. In the area of problem identification and resolution (also known as the Corrective Action Program), a cross-cutting theme was identified involving instances failing to thoroughly evaluate problems such that the resolutions address causes and extent of condition." SCE goes on to explain what the utility has done and plans to do to address these issues.

SCE then provides 14 bullet-point programs and directives to address the problems, dating back to 2007. However, on September 1, 2009, SCE fired the Bechtel group who was contracted to perform the work in question. Therefore, A4NR asks how effective could this listing of corrective actions be, if it involved ultimately firing the contractor and the workforce involved? How much time and money was spent addressing the problem, only to have this corrective action "invalidated" by dismissing the participants? Was the workforce problem simply beyond remediation? Does this bring into question the validity and usefulness of SCE's remedial program? SCE should be asked to provide a "lessons learned" evaluation at this attempt to address workforce remedial problems.

RECOMMENDATION: A4NR believes the utility when it states it is making an effort to address their repeated precursors to safety problems; however this is the third year these issues have been identified by the NRC. Now SCE has changed their general maintenance contractor, replacing Bechtel with the Shaw group. However, Bechtel remains the prime contractor for the steam generator replacement. Given these turnovers in workforce and management, A4NR believes it is prudent for SCE to demonstrate they have resolved these issues and can operate for two consecutive quarters under routine conditions—without infractions—before the workforce begins to cut a 28 by 28 foot hole in the containment of each reactor to replace steam generators. SONGS has seismically qualified domes and this a very expensive (close to a billion dollars) project. If SCE begins this project and encounters "human performance involving instances of failing to provide adequate procedures or work instructions", the result could be cost overruns (traditionally passed on to ratepayers), reliability concerns, and spot market prices to provide generation during peak periods.