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07-AB-1632
DOCKET
08-IEP-1F
DATE OCT 22 2008
RECD. OCT 22 2008

October 22, 2008

Chairman Jackalyne Pfannenstiel
Vice Chair James D. Boyd
Commissioner Arthur H. Rosenfeld
Commissioner Jeffrey Byron
Commissioner Karen Douglas
California Energy Commission
1516 Ninth Street
Sacramento, California 95814

Dear Commissioners:

RE: 2008 Integrated Energy Policy Report Update (08-IEP-1F)
Southern California Edison Company's (SCE) Comments to the Draft Committee Report: An Assessment of California's Nuclear Power Plants: AB 1632 Assessment (07-AB-1632 and 08-IEP-1F)

Southern California Edison (SCE) appreciates the opportunity to provide the following comments on the California Energy Commission's (CEC) October 10, 2008 draft report titled "Assessment of California's Nuclear Power Plants: AB 1632 Committee Report" (Report). The Report provides the CEC's findings and policy recommendations resulting from its AB 1632 assessment of Diablo Canyon Power Plant and San Onofre Nuclear Generating Station (SONGS). SCE's comments are provided in Attachment A.

SCE supports the effort undertaken by the CEC in completing its assessment and drafting the Report. SCE regrets that it was only able to provide limited oral comments at the CEC's October 20, 2008 workshop. SCE acknowledges the importance of the CEC's workshops, but needed additional time to review the Report to provide meaningful comments. SCE has endeavored to complete a substantive review of the Report, and focuses its comments in Attachment A on the Report's recommendations pertaining to SONGS.

Generally, SCE agrees with and is committed to participate cooperatively with the CEC and its staff and consultants in providing the data and assistance needed to address each of the CEC's recommendations, except as noted in the Attachment A.

In sum, SONGS is an important part of SCE's generation portfolio. SONGS provides safe, reliable baseload electricity that is essentially free of greenhouse gas emissions, and provides

critical local transmission system support. SCE shares the CEC's commitment to ensure that SONGS continues to provide safe and reliable electricity for California.

If you require additional information, please contact myself or Manuel Alvarez of our Sacramento Office.

Sincerely,

Michael P. Short

Michael P. Short
Vice President, Engineering and Technical Services

Cc: Barbara Byron

CEC Recommendation No. 6:
SCE should develop an active seismic hazards research program for SONGS similar to PG&E's LTSP to assess whether there are sufficient design margins at the nuclear plant to avoid major power disruptions. The research program should prioritize and include further investigations into the seismic setting at SONGS and should 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. As part of the Energy Commission's future IEPR assessments, SCE should report to the Energy Commission on the results of its seismic research efforts.

SCE Response to Recommendation No. 6:
SCE concurs that new or recent seismic information should be evaluated for implications to the seismic vulnerability of SONGS to avoid major power interruptions. SCE will review PG&E's Long Term Seismic Program (LTSP) to determine what attributes SONGS should incorporate into its existing program. The anticipated result will be an expanded scope for SONGS in terms of additional resources required for this effort.

CEC Recommendation No. 7:
The California Energy Commission, in cooperation with other appropriate state agencies and in coordination with SCE, should evaluate the degree to which new research programs should be pursued using three dimensional seismic reflection mapping and a permanent GPS array for resolving seismic uncertainties offshore near SONGS, if warranted by a cost-benefit analysis. Given the potential for an extended plant shutdown following a major seismic event, the Energy Commission, in consultation with appropriate state agencies, should evaluate whether these studies should be required as part of the SONGS license renewal feasibility assessments for the PUC.

SCE Response to Recommendation No. 7:
SCE agrees with the CEC Report recommendation in that SCE will evaluate the extent to which new research should be performed.

CEC Recommendation No. 8:
The California Energy Commission, in cooperation with other appropriate state agencies, should consider the relevance of the USGS National Seismic Hazard Mapping Project models and the UCERF-2 database in the context of studies required as part of the license renewal assessments at SONGS for the CPUC. Updated seismic hazard analyses incorporating these inputs would provide additional information for regulators and the public regarding the seismic hazard at the plant site.

SCE Response to Recommendation No. 8:
SCE agrees with the CEC Report recommendation.

CEC Recommendation No. 9:
PG&E and SCE should review the tsunami hazard at their nuclear plants in light of recent research and improved scientific understanding of tsunamis. SCE should assess SONGS' tsunami vulnerability after new data from the National Oceanic and Atmospheric Administration for the SONGS site and adjacent coastal areas become available. SCE should also assess the relevance of the University of Southern California second-generation tsunami run-up maps for the tsunami hazards at their nuclear plant sites. PG&E and SCE should provide to the Energy Commission the results of the updated Diablo Canyon and SONGS tsunami hazard study as part of a future IEPR assessment.

SCE Response to Recommendation No. 9:
The height of SCE's SONGS tsunami wall was calculated and designed with a great deal of conservatism. The design considered the joint occurrence of a storm surge, high-tides, storm waves, and vertical displacement of the offshore fault. The wall height represents about a 50 percent margin to protect SONGS from estimated tsunami wave height caused by these factors. SCE, as part of its on-going seismic assessment for SONGS, will review the new data from NOAA when it becomes available.

SCE has not evaluated submarine landslides. SCE will assess the relevance of the University of Southern California second-generation tsunami run-up maps for tsunami hazards at SONGS once the maps referenced in the CEC Report become available.

CEC Recommendation No. 10:
The Energy Commission recommends that PG&E and SCE do the following and report on their progress as part of future IEPR assessments:

Investigate and report their findings on the extent to which their respective plants' non-safety related systems, structures, and components (SSCs) comply with current building codes and seismic design standards for non-nuclear power plants.

SCE Response to Recommendation No. 10:
SCE will examine its non-safety related systems, structures and components (SSCs) that pertain to power generation and transmission at SONGS and determine whether or not they comply with seismic requirements in current building codes.

CEC Recommendation No. 11:
The Energy Commission recommends that PG&E and SCE do the following and report on their progress as part of future IEPR assessments:

Evaluate the implications for the seismic vulnerability of the nuclear plants' non-safety related SSCs of seismic design standard changes that have occurred since the plants were designed and

built. Such an analysis should consider any retrofits that the plant owners may have undertaken and should focus on those plant systems or components whose failure could lead to an extended outage.

SCE Response to Recommendation No. 11:
SCE will evaluate its non-safety related SSCs and focus on those systems or components whose failure could lead to an extended outage.

CEC Recommendation No. 12:
The Energy Commission recommends that PG&E and SCE do the following and report on their progress as part of future IEPR assessments:

Provide a description of plant component repair/replacement plans including initial estimates of time needed to repair or replace key plant systems or components that could cause a prolonged plant outage as a result of being damaged. This should include the time to repair or replace components that are likely to fail during an earthquake, and should consider the fragility of components both in their operating positions and when removed from the reactor for refueling or plant maintenance.

SCE Response to Recommendation No. 12:
SCE will conduct a study to determine what is required to develop a post-earthquake repair/replacement plan, including initial estimates of time needed to repair or replace key plant systems or components that could cause a prolonged plant outage as a result of being damaged.

CEC Recommendation No. 13:
The Energy Commission recommends that PG&E and SCE do the following and report on their progress as part of future IEPR assessments:

Using research on lessons learned from the 2007 earthquake at the Kashiwazaki-Kariwa nuclear plant, evaluate the implications for California's operating nuclear power plants, including whether any additional pre-planning could minimize plant outage times following a major seismic event. As part of their license renewal feasibility analyses for the CPUC, PG&E and SCE should summarize the lessons learned from the KK NPP experience in response to the 2007 earthquake and any implications for Diablo Canyon and SONGS.

SCE Response to Recommendation No. 13:
SCE is evaluating the lessons learned at the Kashiwazaki-Kariwa nuclear plant and will continue to do so as KK NPP completes their effort to restart their units. These results of these evaluations will be reviewed to determine what actions should be taken now as well as their implications for license renewal.

CEC Recommendation No. 14:

PG&E and SCE should return their spent fuel pools to open racking arrangements as soon as possible and report to the Energy Commission on their progress in doing so.

SCE Response to Recommendation No. 14:

SCE believes the current arrangement of spent fuel in the spent fuel pool poses an insignificant risk from either seismic activity or terrorist attack and that re-racking of the pools is not needed.

The Report recommends SCE return its spent fuel pools to open racking arrangements and report to the CEC on progress. This recommendation comes under the heading of "Vulnerability of Spent Fuel Storage Facilities to Seismic and Terrorist Events." Handling of spent nuclear fuel is regulated the Nuclear Regulatory Commission (NRC) and as such, the positioning of spent nuclear fuel in the pools is a result of nuclear safety analysis reviewed by the NRC. The CEC's Report acknowledges the safety of the spent fuel pools when it states that "The spent fuel pools are not expected to suffer a catastrophic loss of cooling as a result of earthquakes." In addition, SCE is fully compliant with NRC security requirements that were instituted after the September 11th terrorist attacks that include protection of the spent fuel pools.

CEC Recommendation No. 15:

The Energy Commission should continue to work with the Nuclear Regulatory Commission to obtain the necessary security clearance for selected California officials to review studies that assess the vulnerability of California's nuclear plants, spent fuel storage facilities, and spent fuel shipments to terrorist attacks or sabotage and the consequences of such attacks.

SCE Response to Recommendation No. 15:

SCE agrees that CEC should work with the NRC on this issue and provides the following information.

The Nuclear Regulatory Commission has set forth guidance on withholding various categories of Sensitive Homeland Security Information, including Critical Energy Infrastructure Information, Security-Related Information and Security Sensitive Information, as promulgated in Regulatory Issue Summary (RIS) 2005-26 and SECY04-0191.

CEC Recommendation No. 16:

As part of license renewal efforts, PG&E and SCE should reassess the adequacy of access roads to the plants and surrounding roadways for allowing emergency personnel to reach the plants and local communities and plant workers to evacuate. The assessments should consider changes to the local populations since the plants were constructed.

SCE Response to Recommendation No. 16:
The CEC Report contains several recommendations concerning the SONGS license renewal process SCE is undertaking. While the actual application to the NRC is a few years away, SCE has begun to assess all of the aspects required for the license renewal application process. SCE acknowledges the key role the CPUC and NRC will play in this process and is confident that reasonable requirements to assess the various economic, environmental and policy issues will be addressed. SCE will consider for inclusions in license renewal the adequacy of access roads to the plants and surrounding roadways for allowing emergency personnel to reach the plants and local communities and plant workers to evacuate as well as changes to the local populations since the plants were constructed.

CEC Recommendation No. 17:
To support the long-term reliability of Diablo Canyon and SONGS as the plants age, effective safety culture and maintenance programs must be maintained at the plants in conjunction with enhanced oversight mechanisms, including:

The state should consider requiring an independent safety oversight committee at SONGS similar to the Diablo Canyon Independent Safety Committee.

The Energy Commission should work with federal and state regulators, nuclear plant owners, and INPO to develop a means for usefully incorporating results of INPO reviews and ratings of reactor operations into a meaningful public process while maintaining the value of these reviews as confidential and candid assessments.

The Energy Commission should continue to closely monitor NRC actions and reviews of Diablo Canyon's and SONGS' performance. In particular, the state should monitor the NRC's responses to safety culture lapses at SONGS and require SCE to provide evidence of achieving and maintaining a strong plant safety culture prior to SCE's submitting a license renewal application.

SCE Response to Recommendation No. 17:
The Report recommends the state consider requiring an independent safety oversight committee at SONGS similar to the Diablo Canyon Independent Safety Committee. SCE is not necessarily opposed to such an entity, but questions its necessity. The CEC's Report categorizes this recommendation under "Vulnerability to Plant Aging-Related Degradation". This section of the Report discusses safety concerns expressed by the NRC and the Institute of Nuclear Power Operation (INPO) at SONGS. SCE works with the NRC and INPO on a constant and on-going basis to address issues such as safety. In addition, SONGS utilizes an oversight board comprised of industry experts and former regulators to routinely provide critique and feedback about all aspects of its operations. SCE believes that adopting a similar safety committee as PG&E's Diablo Safety Committee would provide very limited value.

SCE understands that a strong nuclear safety culture is critical to SONGS success. SCE agrees that the commission should monitor NRC actions and reviews of SONGS as the appropriate indicator of safety culture performance.

CEC Recommendation No. 18:
The Energy Commission recommends that the California Public Utilities Commission continue to recognize the importance of PG&E's and SCE's plant worker training and recruiting programs and approve adequate funding for such programs. On a periodic basis, the state should assess the adequacy and success of PG&E and SCE recruiting and training programs for replacing retiring plant workers and ensuring that knowledge and strong safety cultures are instilled in new workers.

SCE Response to Recommendation No. 18:
SCE agrees with the Report recommendation to the CPUC to continue funding for training and replacement of aging nuclear plant workers. The CPUC has been responsive and SONGS has been proactive in hiring and training personnel in advance of the retirement of SONGS'aging workforce.

CEC Recommendation No. 19:
The existing CAISO-organized Stakeholder Study of Aging Power Plants and Once-Through Cooling Mitigation should be completed as quickly as feasible using sound analytic techniques, and the results should be closely reviewed to determine whether further studies are needed to understand the issues resulting from unplanned outages of Diablo Canyon and SONGS. To the extent such supplemental studies are needed, they should be commissioned and completed in a timely manner.

SCE Response to Recommendation No. 19:
SCE agrees with the recommendation that the existing CAISO-organized Stakeholder Study of Aging Power Plants and Once-Through Cooling Mitigation should be completed.

CEC Recommendation No. 20:
The Energy Commission, CPUC, and CAISO should further evaluate the unique uncertainties of losing the electricity provided by Diablo Canyon and SONGS over an extended period, identify how resources might be acquired that have an energy supply capability beyond that used in normal market conditions, and modify the long-term planning and procurement process at the CPUC to ensure that these resources are acquired in a timely manner.

SCE Recommendation to Recommendation No. 20:
SCE agrees with the recommendation that the Energy Commission, CPUC, and CAISO should evaluate the uncertainties of the loss of electricity for an extended period of time by Diablo Canyon or SONGS.

SCE adds that the Report should be revised to accurately reflect the current critical need for SONGS, both from a regional and local reliability perspective. Until conditions change, due to the actual development of other electrical generating facilities, conclusions that understate the importance of SONGS do not accurately reflect the impact of a prolonged SONGS shutdown.

The Report's conclusions on energy simulations of replacement power options used for an extended shutdown of SONGS are incorrect. The Report assumed quantities of import energy that were greater than import capability. With SONGS shut down, import capabilities into Southern California may be reduced by approximately 1000 to 1500 MW from current levels; therefore Southern California cannot import more energy from outside the state.

Additionally, import capability reduction during a SONGS shut down means sources within Southern California would have to produce more energy, generally with higher heat rates, increasing the amount of green-house gas (GHG) emissions beyond what were characterized in the report. A prolonged shutdown of SONGS could cause serious grid reliability shortfalls unless transmission system infrastructure improvements were made.

CEC Recommendation No. 21:
As part of the license renewal feasibility studies for Diablo Canyon and SONGS, the CPUC should require PG&E and SCE to conduct a detailed study of the local economic impacts of shutting down the nuclear plants compared with alternate uses of the site.

SCE Response to Recommendation No. 21:
SCE agrees with the recommendation that this is a requirement of the SONGS license renewal assessment for the CPUC

CEC Recommendation No. 22:
During the upcoming California Public Utilities Commission proceeding on decommissioning costs, PG&E and SCE should provide estimates of the amounts of low-level waste to be generated and ultimately disposed of during plant operation and decommissioning and the cost of this disposal based on current and projected market prices.

SCE Response to Recommendation No. 22:
SCE, in compliance with the CPUC's requirements for the Nuclear Decommissioning Cost Triennial Proceeding (NDTCP) provides the CPUC with estimates of the amounts and costs of low-level waste to be disposed of at the time of decommissioning.

CEC Recommendation No. 23:
As part of license renewal feasibility studies, PG&E and SCE should assess the costs of disposing of low-level waste that will be generated during a 20-year license extension. The assessments should include the cost to dispose of low-level waste that would be generated from major capital projects that might be required over this period. PG&E and SCE should also provide information on their plans for storage and disposal of low-level waste and spent fuel through plant decommissioning.

SCE Response to Recommendation No. 23:
SCE agrees with the recommendation that this is a requirement of the SONGS license renewal assessment for the CPUC.

CEC Recommendation No. 24:
A more detailed study of alternative power generation options is needed to quantify the reliability, economic, and environmental impacts of replacement power options. This is being done under the replacement power assessments, which are being initiated by the utilities under CPUC guidance.

SCE Response to Recommendation No. 24:
SCE understands, based on information received, that this recommendation will be withdrawn.

CEC Recommendation No. 25:
The Energy Commission, working with the CPUC as part of the CPUC's authority to fund and oversee utilities' plant relicensing feasibility studies, should develop a plan for reviewing the costs and benefits of nuclear plant license extensions, scope of evaluation, and the criteria for assessment. This review should include the adequacy of the plants' maintenance programs and safety cultures; plans for waste storage, transport and disposal; seismic hazard assessments; the cradle-to-grave evaluation of the nuclear plants compared with alternative generating and transmission resources; contingency plans in the event the state's nuclear power plants have prolonged outages; implications for grid reliability if these plants shut down; and the overall economic and environmental costs and benefits of license extension.

SCE Response to Recommendation No. 25:
The CEC Report contains several recommendations concerning the SONGS license renewal process that SCE is undertaking. SCE acknowledges the key role the CPUC and NRC will play in this process and is confident that the requirements to assess the various economic, environmental and policy issues will be addressed.