



ALLIANCE FOR NUCLEAR RESPONSIBILITY

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California Energy Commission
Dockets Office, MS-4
Re: Docket No. 11-IEP-1A
1516 Ninth Street
Sacramento, CA 95814-5512

DOCKET	
11-IEP-1A	
DATE	DEC 22 2011
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RE: Comments and Recommendations of the Alliance for Nuclear Responsibility (A4NR) in response to the DRAFT 2011 Integrated Energy Policy Report, Docket 11-IEP-1A

Commissioners:

The Alliance for Nuclear Responsibility (A4NR) is pleased with the overall scope of the IEPR's Nuclear findings and recommendations (Chapter 13). We have some specific questions and comments regarding individual components, and they are outlined in the following letter. We have included the excerpt from the IEPR draft, and our comments follow in a bold type font.

P.186: POST-FUKUSHIMA FOLLOW UP

After Fukushima, however, the NRC established a task force to evaluate what lessons might apply to the safety of U.S. reactors and instructed NRC plant inspectors to conduct immediate, independent assessments of each plant's level of emergency preparedness. NRC's regional and resident inspectors found several deficiencies at Diablo Canyon.

COMMENT: WHAT FOLLOW UP IS CEC ASKING FOR? WHO IS MONITORING TO SEE IF THE NRC OR THE UTILITY ACTUALLY CALLED FOR AND IMPLEMENTED THE REMEDIES RECOMMENDED OR MANDATED?

p. 187 SONGS:

For SONGS, the largest uncertainty for determining seismic hazard and plant vulnerability pertains to the offshore (and potentially onshore) thrust fault systems. The existing seismic network in Southern California has few monitoring stations near SONGS. Therefore, detailed studies similar to those that led to the discovery in 2008 of the Shoreline Fault near Diablo Canyon are not possible. Similarly, the existing global positioning system (GPS) network in

Southern California has few stations near SONGS, and no ocean floor GPS monitoring stations are in the vicinity of the plant.

AND RELATED:

p. 188 NRC

The NRC's Task Force has noted an increased understanding of seismic hazards within the United States and is recommending an upgrade of the design basis and flooding protection of structures, systems, and components (SSCs) for each operating reactor (with a re evaluation of the design basis every 10 years). The NRC is reviewing the adequacy of seismic safety margins at all U.S. plants with PG&E's and SCE's participation.²¹⁴ The additional seismic studies for Diablo Canyon and SONGS, as recommended by the AB 1632 Report, will contribute to these updated seismic evaluations.

COMMENT: HOWEVER, NRC REGULATORY REFORM IS CAUGHT IN LIMBO. WHAT CAN THE STATE DO IN THE INTERIM, WITHIN ITS JURISDICTION? IF THE NRC CANNOT MAKE A FINAL RECOMMENDATION OR MANDATE, DOES THAT LEAVE THE STATE AT CONTINUED RISK? FURTHER, AND VERY IMPORTANT, CEC LANGUAGE SUCH AS "...additional studies...as recommended by the AB 1632 Report" HAS TURNED OUT TO BE A SOMEWHAT VEXING PROBLEM. THE LACK OF PRECISE CLARITY IN THE DESCRIPTION OF EXACTLY WHAT THE CEC WAS EXPECTING IN THE DESIGN OF THE STUDIES HAS LED TO COMPLICATIONS IN THEIR PLANNING, FUNDING AND EXECUTION. WHEN RECOMMENDING STUDIES, THE INPUT OF EXPERT SEISMOLOGISTS ON THE CEC STAFF SHOULD BE CONSIDERED SO THAT MORE SPECIFIC AND LESS VAGUE TECHNICAL INSTRUCTIONS CAN BE GIVEN TO THE UTILITIES.

p. 190-191

The NRC requires that plants be capable of cooling the reactor core and maintaining containment integrity for the duration of four to eight hours.²²⁷ However, NRC does not address the impact from certain external hazards, such as seismic and flooding, or from naturally occurring events leading to the loss of on site or off site power. The NRC Task Force recommends that the NRC strengthen station blackout mitigation capability at all operating and new reactors for design basis and beyond design basis external events (for example, floods, hurricanes, earthquakes, tornadoes, tsunamis). It is also recommending that plant emergency plans address prolonged station blackouts and events involving multiple reactors.

COMMENT: WHAT ABOUT THE RESERVE OF COOLING WATER IN THE GRAVITY FED POOL LOCATED ABOVE THE DIABLO CANYON POWER BLOCK? WHAT IS ITS CAPACITY, HOW LONG WOULD IT LAST, AND HAS THE PHENOMENON OF "SLOSHING" IN THAT POOL—THAT IS, WATER THAT COULD BE LOST DURING THE SAME SEISMIC EVENT—BEEN FACTORED INTO THE NEW SEISMIC STUDIES?

P 191 LIABILITY

The U.S. Price Anderson Act coverage limits public liability claims from a nuclear power plant incident to roughly \$12.6 billion. The act covers bodily injury, sickness, disease or resulting death, or off site property damage caused by nuclear material at the defined location. Since U.S. homeowner insurance policies do not cover nuclear related damages, it is unclear whether individuals affected by a nuclear accident will be sufficiently covered or reimbursed for damages under the Price Anderson Act. According to SCE, complainants would be required to prove damages and to adjudicate claims in state court.

COMMENT: IF THERE IS LACK OF CLARITY IN THE REMEDY AVAILABLE TO CALIFORNIANS FOR PROPERTY AND OTHER DAMAGE CLAIMS, THIS LACK OF CLEAR UNDERSTANDING OF PRICE ANDERSON AND RESPONSIBILITY FOR DAMAGE OR HEALTH CLAIMS MUST BE CLARIFIED—WHO ASKS FOR THAT CLARIFICATION, AND WHOM DO THEY ASK? RATEPAYERS AND STAKEHOLDERS CANNOT TAKE SCE'S ASSERTION TO BE FACT.

FOR COMPARISON PURPOSES, COST ESTIMATES SHOULD INCLUDE DISCLOSURES OF DAMAGE CLAIMS REGARDING EVACUEES, FISHERMAN, AGRICULTURE, BEEF INDUSTRY, TOURISM AT END OF 2011 (OR MORE CURRENT) AS A RESULT OF THE FUKUSHIMA INCIDENT IN JAPAN.

P 193

In light of the extended outages (years) at nuclear power plants in Japan following major earthquakes in 2007 (Kashiwazaki) and in 2011 (Fukushima Daiichi), a comprehensive and updated analysis of the impacts and mitigation of unexpected, long term, unplanned outages at one or both of California's nuclear plants is needed. Such an analysis would include an assessment of options for their replacement and the impacts of their shutdown (for example, reliability) and would involve multiple California agencies, particularly the California ISO. The California ISO is uniquely capable of examining the impact on electricity reliability of extended outages given its day to day operation of the electric grid for most of the state. Further, the CPUC would play a critical role in authorizing PG&E and SCE to secure additional capacity suitable for mitigating a sudden unplanned, extended outage of Diablo Canyon and SONGS. The Energy Commission also would play a role in providing the other energy agencies and the public energy supply and demand forecasts.

COMMENT: AN EXCELLENT CONCEPT CALLING FOR ANALYSIS, BUT WHO IS GOING TO TAKE THE LEAD IN COORDINATING EFFORTS OF CEC, CAISO, CPUC AND THE UTILITIES? AND ON WHAT TIME FRAME CAN THIS WORK BE EXPEDITED?

p. 193-194 Emergency Evacuation

PG&E recently examined how potential earthquake damage to roads and bridges around Diablo Canyon could affect evacuation plans. The study concluded that little or no damage would likely occur to the majority of bridges and roadways serving as evacuation routes. Overall, PG&E found that the estimated evacuation time did not exceed what would be unacceptable. SCE

periodically reviews the roadways surrounding SONGS and has concluded they are adequate for emergency personnel access and for evacuation during an emergency.

COMMENT: IN BOTH OF THESE CASES, IT IS NOTED THAT THE UTILITIES—PG&E AND SCE—CONDUCTED THE REVIEW OF EMERGENCY EVACUATION ROUTES AND INFRASTRUCTURE AND CONCLUDED THAT THERE WERE NO PROBLEMS. SELF-DIRECTED STUDIES DONE UNILATERALLY BY THE UTILITIES CANNOT BE TRUSTED, ANY MORE THAN TEPCO WAS ENTRUSTED TO DO THEIR OWN STUDIES AT FUKUSHIMA (WITH DELETERIOUS RESULTS). CALIFORNIA AGENCIES—IN THIS CASE THE STATE SEISMIC SAFETY COMMISSION AND CALTRANS—SHOULD BE TASKED WITH UPDATING THESE EVACUATION INFRASTRUCTURE CAPABILITIES.

P. 194 Radioactive Waste

PG&E has not performed cost/benefit studies for long term storage at Diablo Canyon and has assumed spent fuel will be stored onsite until the federal government removes it. PG&E has developed a dry storage facility to store the waste away from the reactor but plans to rely on pool storage for spent fuel generated during a 20 year license extension.

COMMENT: THE ENERGY COMMISSION SHOULD REQUIRE PG&E TO DO THE COST BENEFIT ANALYSIS MENTIONED ABOVE, AND SCE SHOULD BE REQUIRED TO DO THE SAME FOR SONGS.

p. 196 Seismic Updates/Diablo Canyon

PG&E completed a study of the Shoreline Fault in January 2011 for the NRC, which asserted that based on newer seismic information the plant can with stand more severe shaking than estimated when the plant was designed in 1977. As required, PG&E will conduct additional seismic studies to identify the association between the Shoreline and Hosgri Faults and evaluate the existence/configuration of the southern continuation of the Shoreline Fault.

COMMENT: FIRST, NOTE THAT THE STUDIES PG&E HAS DONE SO FAR ON THE SHORELINE FAULT ARE UNILATERAL STUDIES AND WERE NOT CONDUCTED UNDER THE AEGIS OF THE INDEPENDENT PEER REVIEW PANEL (IPRP) PUT IN PLACE TO OVERSEE THE AB 1632 RECOMMENDED STUDIES. THEREFORE, THE CONCLUSION THEY REACH IN THESE EARLY STUDIES REGARDING GROUND MOTION AND MAGNITUDE DO NOT SATISFY THE AB 1632 RECOMMENDATIONS.

SECOND, THE CEC PLACES EMPHASIS ON SHORELINE AND HOSGRI FAULTS, BUT MUST RECALL THAT THE AB1632 RECOMMENDATIONS CALLED FOR EXAMINATION OF ALL FAULTING IN THE VICINITY OF THE PLANT, INCLUDING LAND-BASED FAULTS. THE LATTER FAULTS SEEM TO BE GETTING SHORT-CHANGED IN CONCERN AND EXAMINATION.

P.196-197 Seismic Updates/SONGS

SCE's ongoing Seismic Hazard Analysis Program periodically reviews and updates SONGS' seismic hazards, and SCE's advisory board of seismic experts reviews the plant's seismic information and identifies the need for additional research. SCE plans to use the most recent UCERF database to complete the seismic studies, the results of which will be provided to the NRC as part of its regulatory process.

COMMENT: AGAIN, THERE IS CONFUSION INVOLVING THE CEC'S REQUESTS AND THEIR EXECUTION BY THE UTILITY. SCE'S SEISMIC HAZARD ANALYSIS PROGRAM HAS A MURKY CONNECTION WITH THE CEC'S AB 1632 RECOMMENDATION THAT SCE CREATE AN ON-GOING PROGRAM "SIMILAR TO THE LTSP" AT PG&E. THIS HAS BEEN THE SOURCE OF MUCH CONFUSION AT THE CPUC INVOLVING THE FUNDING OF THIS PROGRAM. BECAUSE THE CEC USED ONLY THE WORD "SIMILAR," STAKEHOLDERS ARE CONCERNED THAT THE SCE PROGRAM MAY NOT BE FOLLOWING THE "LETTER OF THE LAW" IN THIS REGARD. AS A4NR HAS POINTED OUT IN THE SCE FUNDING CASE BEFORE THE CPUC, PG&E WAS MANDATED TO CREATE A LTSP AS PART OF A PUNITIVE ACTION BY THE NRC. THEREFORE, THE DESIGN AND RESULTS OF THAT LTSP WERE SUBJECT TO OUTSIDE (NRC) OVERSIGHT. IN THE CASE OF SCE, THERE APPEARS TO BE NO PROVENANCE FOR THE CREATION OF THIS "SIMILAR TO" PROGRAM, HENCE CONFUSION OVER ITS GOALS AND ACCOUNTABILITY. THE CEC SHOULD CLARIFY WITH SPECIFICS WHAT IT INTENDED IN HAVING SCE CREATE A PROGRAM "SIMILAR TO" PG&E'S LTSP.

P. 198 Studies of Seismic Vulnerability of Plant Components

In March 2010, a PG&E report evaluated the probability of a prolonged post earthquake outage at Diablo Canyon from damaged nonsafety related structures, systems, and components (SSC). The report concluded that all of the SSCs are designed to the appropriate seismic criteria and meet the required Design Earthquake and Double Design Earthquake criteria for accident mitigation or safe shutdown. The SSCs were found to withstand a 7.5 magnitude earthquake on the Hosgri Fault.

COMMENT: AGAIN, THIS INFORMATION IS ONLY VALID IN SO MUCH AS IT IS SELF-REPORTED BY PG&E WITHOUT EXTERNAL INDEPENDENT OVERSIGHT. IN ADDITION, IT IS QUITE POSSIBLE THAT THE SSC COMPONENTS WILL NEED TO BE RE-EVALUATED POST-2015 WHEN THE RESULTS AND ANALYSIS OF THE AB 1632 SEISMIC STUDIES ARE COMPLETED. IF THE GROUND MOTION AND MAGNITUDES CHANGE FOR THE SITE, THEN THESE STRUCTURES WILL NEED RE-EVALUATION.

RECOMMENDATIONS SECTION:

P. 201: Seismic Issues

PG&E should submit to the Atomic Safety and Licensing Board (ASLB), as part of PG&E's Final seismic report to the ASLB in the Diablo Canyon license renewal proceeding, the Findings and recommendations from the California IPRP on PG&E's seismic studies. These Studies include PG&E's onshore and offshore seismic studies funded by CPUC Decision 10-08-003. The CPUC should establish a SONGS IPRP, comparable to Diablo Canyon's IPRP, to review SONGS' seismic safety studies recommended in the 2008 IEPR Update. SCE should include the IPRP's evaluations, findings, and recommendations in their seismic hazard analyses and submittals to the NRC. California's IPRPs for PG&E's and SCE's seismic studies for Diablo Canyon and SONGS should coordinate their seismic hazard evaluations.

COMMENT: THE CEC NEEDS TO UPDATE ITSELF ON THE STATUS OF THE AB 1632 RECOMMENDATIONS AND THE CPUC PROCESS. FIRST, THE FUNDING IN THE ABOVE REFERENCED D. 10-08-003 DID NOT INCLUDE FUNDING FOR THE INDEPENDENT PEER REVIEW PANEL (IPRP), WHICH IS ONLY NOW GOING TO BE REMEDIED IN PG&E'S REQUEST BEFORE THE CPUC TO RE-OPEN THE ORIGINAL SEISMIC FUNDING CASE. NOR DID THE CPUC PREPARE FOR CURRENT SEISMIC FUNDING PROCEEDINGS AND IS ABSENT AN IN-HOUSE AND/OR EXTERNAL SEISMIC EXPERT TO REVIEW THE REASONABLENESS OF THE SCOPE AND COST ESTIMATES TOTALING OVER \$100 MILLION TO CALIFORNIA RATEPAYERS. THE UTILITIES AND THE DIVISION OF RATEPAYER ADVOCATES CLAIM TO HAVE HAD ONLY MINIMAL CONTACT WITH THE CEC DURING THIS PROCESS OF DEVELOPING THE SEISMIC STUDIES, AND CLAIM THAT THE FACT THAT THE CEC HAS NOT COMMENTED ON THE PROPOSALS IS A DEFAULT ACCEPTANCE OF THE SCOPE ON THE PART OF THE CEC.

PG&E IS NOW REQUESTING APPROXIMATELY \$45 MILLION ADDITIONAL FOR SEISMIC STUDIES BEYOND WHAT WAS AWARDED IN D. 10-08-003 AND INTERVENORS HAVE REQUESTED THAT HEARINGS BE HELD, BECAUSE STAKEHOLDERS ARE NOT CERTAIN THAT THE MONEY REQUESTED IS MERITED. NOR HAS, AT THE TIME OF THIS WRITING, THE DIABLO CANYON IPRP VETTED THIS NEW REQUEST BY PG&E. THE CEC SHOULD REVIEW PG&E'S RE-APPLICATION VERY CAREFULLY AND DETERMINE IF IT DOES INDEED FULFILL THE COMPLETION OF THE AB 1632 REQUIREMENTS.

IN THE MATTER OF SONGS, THE CEC SHOULD BE AWARE THAT IN THE CPUC PROCEEDING FOR FUNDING FOR THE AB 1632 STUDIES AT SONGS, QUESTIONS HAVE ARISEN OVER THE ROLE OF THE IPRP. WHEN THE CEC WRITE THAT "The CPUC should establish a SONGS IPRP, comparable to Diablo Canyon's IPRP" THERE ARE QUESTIONS RAISED BY SCE OVER THE ROLE OF THE IPRP. TO A4NR, WHEN THE CEC SAYS "comparable" IT MEANS THAT IF THE IPRP FOR DIABLO CANYON OVERSAW EXECUTION OF ALL THE ITEMIZED REQUIREMENTS OF AB 1632, THEN THE IPRP AT SONGS SHOULD DO THE SAME. IN THEIR CPUC CASE, SCE MAINTAINS THAT THE WORD "comparable"

MEANS THAT ONLY THE RECOMMENDATIONS WHICH THE TWO PLANTS HAVE IN COMMON SHOULD BE SUBJECT TO THE PURVIEW OF THE IPRP. IT IS INCUMBENT UPON THE CEC TO LET THE PARTIES KNOW WHAT THEY INTENDED TO MEAN, AND TO USE, WHEN POSSIBLE, MORE PRECISE AND SPECIFIC LANGUAGE SO AS TO AVOID THIS CONFUSION. IN ADDITION, THE CEC SHOULD MAKE IT CLEAR THAT SCE'S IN-HOUSE "SEISMIC TECHNICAL ADVISORY BOARD" (STAB) IS NOT THE SAME AS, NOR SHOULD IT BE SUBSTITUTED FOR, THE IPRP.

FURTHER, DURING THE HEARINGS FOR THE SEISMIC STUDY FUNDING AT SONGS (CPUC A/11-05-011—A11-04-006), THE WITNESS FOR SCE DECLARED THAT THE CEC HAD VALIDATED AND APPROVED OF THE SCOPE OF THE STUDY PLANS, BASED ON ONE EMAIL COMMUNICATION WITH BARBARA BYRON, TO WHICH HER ONLY WORDS—IN RESPONSE TO THE SUBJECT HEADING "HOPE THIS IS STILL YOUR EMAIL ADDRESS..." WERE "YES. THANKS." THE CEC NEEDS TO ESTABLISH A FORMAL PROTOCOL WITH THE UTILITIES WITH REGARD TO COMMUNICATIONS AND CONFIRMATIONS.

P. 201 Waste

PG&E and SCE should evaluate, as part of the 2012 IEPR Update, the potential long term Impacts of spent fuels storage in pools versus dry cask storage of higher burnup fuels in Densely packed pools, and the potential degradation of fuels and package integrity during Long term wet and dry storage and transportation offsite.

COMMENT: THE CEC'S REQUIRED EVALUATION SHOULD ALSO INCLUDE PROJECTED COSTS FOR THE DIFFERENT PROJECTED SCENARIOS. FURTHER, AS THE NRC'S MEMO OF FEBRUARY 28, 2011, SECY-11-0029 "PLAN FOR THE LONG-TERM UPDATE TO THE WASTE CONFIDENCE RULE AND INTEGRATION WITH THE EXTENDED STORAGE AND TRANSPORTATION INITIATIVE" MAKES CLEAR, "THE EIS WILL INITIALLY CONSIDER THE IMPACTS OF SNF AND HLW HANDLING, STORAGE, AND ASSOCIATED TRANSPORTATION FROM APPROXIMATELY THE YEARS 2050 TO 2250." THUS, WITH A 300 YEAR TIME FRAME CONSIDERED BY THE NRC FOR ON-SITE WASTE STORAGE, ALL COSTS AND PLANS SHOULD INCLUDE EXTRAPOLATION TO THAT LATER DATE.

P.201 Station Blackout

COMMENT: SCE AND PGE SHOULD LIST ADDITIONS EITHER MADE OR PLANNED (POST-FUKUSHIMA LESSONS) TO ADDRESS STATION BLACKOUT AT CALIFORNIA'S OPERATING REACTORS: WHAT HAS BEEN INSTALLED POST-FUKUSHIMA, WHAT HAS BEEN REQUIRED, WHAT HAS BEEN RECOMMENDED, AND WHAT HAS IT COST?

P. 202 Nuclear Plant Liability Coverage

PG&E and SCE should report to the Energy Commission, as part of the 2012 IEPR Update, On the adequacy of Price Anderson Act liability coverage for a severe event at Diablo Canyon or SONGS resulting in large off site releases of radioactive materials. They should Include cost estimates for replacement power and reimbursement for off site public health Impacts and environmental and economic damage, (for example, decontamination costs and The potential impacts on agriculture, water supplies, food products, tourism, and businesses from the event).

COMMENT: COST ESTIMATES—FOR COMPARATIVE PURPOSES—SHOULD INCLUDED DISCLOSURES OF DAMAGE CLAIMS: EVACUEES, FISHERMAN, AGRICULTURE, BEEF INDUSTRY, TOURISM AS OF THE END OF 2011 (OR MOST CURRENT) FROM FUKUSHIMA AND JAPAN.