

October 15, 2010

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE COMMISSION**

In the matter of  
Pacific Gas and Electric Company  
Diablo Canyon Nuclear Power Plant  
Units 1 and 2

Docket Nos. 50-275-LR  
50-323-LR

**SAN LUIS OBISPO MOTHERS FOR PEACE'S REPLY BRIEF  
REGARDING THE NRC'S DUTY TO WAIVE 10 C.F.R. § 51.53(c)(2)  
AND 10 C.F.R. PART 51 SUBPART A, APPENDIX B**

**I. INTRODUCTION**

Pursuant to the Commission's Order of August 31, 2010, San Luis Obispo Mothers for Peace ("SLOMFP") hereby replies to the briefs submitted by Pacific Gas & Electric Co. ("PG&E") and the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") Staff regarding the question of whether the Commission should waive 10 C.F.R. § 51.53(c)(2) and 10 C.F.R. Part 51, Subpart A, Appendix B, which would otherwise preclude consideration by the NRC of the environmental impacts of spent fuel storage in the license renewal proceeding for the Diablo Canyon nuclear power plant ("DCNPP"). Applicant's Brief in Opposition to a Waiver for Contention EC-2 (September 24, 2010) ("PG&E Brief"); NRC Staff's Brief in Opposition to Waiver of 10 C.F.R. §§ 51.53(c)(2) and 10 C.F.R. Part 51, Subpart A, Appendix B as to Contention EC-2 (September 24, 2010) ("NRC Staff Brief").

As discussed in SLOMFP's opening brief, the NRC has a non-discretionary duty to grant a waiver in this case in order to consider new and significant information about the environmental impacts of spent fuel storage at DCNPP that was not considered in the 1996 License Renewal Generic Environmental Impact Statement ("GEIS") but is presented for the first time in the 2009 Draft Revised GEIS. San Luis Obispo Mothers for Peace's Brief

Regarding the NRC's Duty to Waive 10 C.F.R. § 51.53(c)(2) and 10 C.F.R. Part 51 Subpart A, Appendix B, Etc. at 16-19 (September 24, 2010) ("SLOMFP Brief") (citing 10 C.F.R. § 51.92(a)(2) and *Marsh v. Oregon Natural Resources Council*, 489 U.S. 360, 371-72 (1989)).

The Commission may not apply its waiver standard in a way that would excuse it from its iron-clad obligation under NEPA to consider new and significant information bearing on the environmental impacts of operating DCNPP beyond its current license term.

In any event, SLOMFP satisfies the standard for a waiver in 10 C.F.R. § 2.335 because the new and significant information in the Draft Revised License Renewal GEIS is unique to DCNPP in the sense that DCNPP is one of a handful of reactors, located in the western United States, for which the NRC is unable to reach the general conclusion that the environmental impacts of earthquakes on spent fuel pools are insignificant. In addition, the purpose of 10 C.F.R. § 51.53(c)(2) and 10 C.F.R. Part 51 Subpart A, Appendix B, which is to make a reasoned and supported generic finding regarding the environmental impacts of spent fuel storage at nuclear reactor sites, would not be served if the NRC were to re-license DCNPP without considering the potentially significant environmental impacts identified for the first time in the 2009 Draft Revised License Renewal GEIS.

As discussed below, PG&E and the NRC Staff have failed to satisfy their burden of overcoming SLOMFP's *prima facie* showing that a waiver should be granted in this case. LBP-10-15, slip op. at 42 and n.54. Therefore the Commission should grant the waiver and admit Contention EC-2.<sup>1</sup>

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<sup>1</sup> SLOMFP has sought a waiver of 10 C.F.R. § 51.53(c)(2) and 10 C.F.R. Part 51, Subpart A, Appendix B to the extent that they preclude consideration of seismic impacts to spent fuel pools during the license renewal term and afterwards. The NRC Staff asserts that it is inappropriate for SLOMFP to seek a waiver of 10 C.F.R. § 51.53(c)(2), and that SLOMFP should have sought a

## II. ARGUMENT

The 2009 Draft Revised License Renewal GEIS identifies two important respects in which the NRC's view of the environmental impacts of high-density pool storage of spent fuel has changed dramatically since it issued the 1996 License Renewal GEIS fourteen years ago. First, while the NRC continues to adhere to its general conclusion in the 1996 License Renewal GEIS that the risk of a spent fuel pool accident is low, it has changed the technical basis for that conclusion in ways that have significance with respect to the risks posed by earthquakes to the DCNPP fuel pools. The "key" document on which the NRC now relies is NUREG-1738, *Final Technical Study of Spent Fuel Pool Accident Risk and Decommissioning Nuclear Power Plants* (January 2001). Draft Revised License Renewal GEIS at E-33. NUREG-1738 contradicts several of the crucial assumptions underlying the conclusion of the 1996 Licenses Renewal GEIS, including the assumptions that instantaneous and total loss of pool water is the most severe accident case and that aged spent fuel is incapable of ignition. SLOMFP Brief at 5. As a result, the NRC found that only the most severe and unlikely earthquake could cause a pool fire. Waste Confidence Rule, 55 Fed. Reg. 38,474, 38,481 (September 18, 1990).

Second, the 2009 Draft Revised License Renewal GEIS repeats the conclusion of NUREG-1738 that the NRC lacks an adequate technical basis for a conclusion that the risk of a catastrophic earthquake-induced spent fuel pool fire at western reactor sites is negligible. Given (i) the NRC's recognition of earthquakes as major contributors to spent fuel pool accident risks

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waiver of 10 C.F.R. §§ 51.53(c)(3) and 51.95(c) in addition to Appendix B. NRC Staff Brief at 11 n.43.

SLOMFP agrees with the NRC Staff that 10 C.F.R. §§ 51.53(c)(3) and 51.95(c) should be waived in the course of waiving Appendix B. In addition, it appears to SLOMFP that 10 C.F.R. § 51.53(c)(2) should be waived because it also relates to the environmental impacts of spent fuel storage, albeit after expiration of the license renewal term.

(see NUREG-1353, Regulatory Analysis for the Resolution of Generic Issue 82 (1989)), (ii) PG&E's identification of earthquakes as dominant severe accident contributors (Environmental Report at F-65), (iii) the recent identification of the Shoreline Fault on the DCNPP site, this new and significant information fatally undermines the applicability to DCNPP of the 1996 License Renewal GEIS' generic conclusion that the environmental impacts of spent fuel storage are insignificant.

PG&E and the Staff make various arguments to the effect that the 1996 License Renewal GEIS remains viable in spite of this new and significant information, but neither party makes a convincing case. PG&E, for example, makes the remarkable assertion that "[t]here is nothing in the draft revised GEIS that undermines the conclusion in the current GEIS that the environmental impacts of spent fuel pool storage are small." PG&E Brief at 13. PG&E could only make such an audacious claim by completely ignoring footnote (a) on page E-33 of the 2009 Draft Revised License GEIS. Footnote (a) reports that in the principal document for which the NRC relies for its current analysis of spent fuel storage impacts, NUREG-1738, the NRC has reserved judgment on the risks of earthquake-caused spent fuel pool fires at Diablo Canyon, San Onofre, and WNP-2 (Columbia). Given the conceded importance of earthquakes to the risk of a spent fuel pool accident at DCNPP, footnote (a) fatally undermines PG&E's argument that the conclusion of the 1996 License Renewal GEIS regarding the insignificance of spent fuel storage impacts remains applicable to the DCNPP spent fuel storage pools.

The NRC Staff argues that the exclusion of DCNPP and other western sites from the conclusions of NUREG-1738 "does not indicate that the NRC cannot form conclusions about operating reactors at those locations." NRC Staff Brief at 22. The Staff's awkward use of double-negatives highlights its inability to meet its burden of showing that the NRC *has* formed

conclusions about the risks of earthquake-caused spent fuel pool fires at western reactors. LBP-10-15, slip op. at 42. If the NRC had reached such a conclusion, one would certainly expect to see it documented in the 2009 Draft Revised License Renewal GEIS. But the best that the NRC was able to do in the Draft Revised GEIS was to cite NUREG-1738. NUREG-1738, in turn, recommended site-specific studies for the three western sites and H.R. Robinson. *Id.* at ix.<sup>2</sup>

The Staff also argues that the 2009 Draft Revised License Renewal GEIS “largely relied on the same studies” as the 1996 License Renewal GEIS for its conclusion that the probability of a spent fuel pool fire is low. NRC Staff Brief at 4. *See also* PG&E Brief at 23. This argument is simply incorrect. The only pre-1996 technical study cited in the Draft Revised License Renewal GEIS is NUREG-1353, which is mentioned in the Draft Revised License Renewal GEIS without any endorsement of its technical analysis. *Id.* at E-33. The Draft Revised GEIS makes no mention of the numerous other studies cited in the 1996 GEIS along with NUREG-1353.<sup>3</sup> As summarized in the Waste Confidence Rule, these studies examined the risk of a spent fuel pool fire assuming a total, instantaneous loss of water from the fuel pool, as would be caused by the most severe earthquake. 55 Fed. Reg. at 38,481. The NRC concluded that the environmental impacts of such an accident were insignificant because the probability of such a severe earthquake was extremely small, and because aged fuel was unlikely to burn. *Id.* (citing NUREG-1353). As demonstrated by the NRC’s recent denial of rulemaking petitions regarding

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<sup>2</sup> Both the NRC Staff and PG&E argue that NUREG-1738 is inapplicable here because its purpose is safety-related, not environmental. NRC Staff Brief at 5, PG&E Brief at 17. But this argument is flatly contradicted by the NRC’s own reliance on NUREG-1738 as the “key” document presenting the agency’s “additional analysis of the risk from spent fuel pool accidents” since issuance of the 1996 GEIS. Draft Revised License Renewal GEIS at E-33.

<sup>3</sup> *See, e.g.*, NUREG/CR-4982, Severe Accidents in Spent Fuel Pools in Support of Generic Issue 82 (1987); NUREG/CR-5176, Seismic Failure and Cask Drop Analysis of the Spent Fuel Pools at Two Representative Nuclear Power Plants (1989); and NUREG/CR-5281, Value/Impact Analysis of Accident Preventative and Mitigative Options for Spent Fuel Pools.

spent fuel storage impacts, the NRC now recognizes that total, instantaneous uncovering of the fuel is not the more severe accident case and that fuel of any age may ignite if it is partially uncovered. 73 Fed. Reg. 46,204, 46,208 (“Air cooling is less effective under the special, limited condition where the water level in the SFP drops to a point where water and steam cooling is not sufficient to prevent the fuel from overheating and initiating a zirconium fire, but the water level is high enough to block the full natural circulation of air flow through the assemblies.”) Hence, the Draft Revised GEIS focuses on how far fuel assemblies must be uncovered before they ignite and how mitigative measures can slow the initiation of a fire after the fuel is partially uncovered. *Id.* at E-36. *See also* 73 Fed. Reg. at 46,208 (“The NRC has determined that a zirconium cladding fire does not occur when only the tops of the fuel assemblies are uncovered. In reality, a zirconium fire cannot occur unless fuel uncovering is more substantial.”)

Under the circumstances, the most dangerous earthquake for the DCNPP spent fuel pools is no longer the most severe and unlikely event which causes total and instantaneous loss of water, but rather a less severe beyond-design-basis earthquake. Contrary to the Staff’s argument at page 14, the potential for a pool fire caused by such an event is not analyzed in NUREG-1353. Nor is it analyzed in any of the other studies underlying the 1996 GEIS, or any of the studies identified in the 2009 Draft Revised GEIS.

Both the Staff and PG&E also argue that the Commission’s decision rejecting a rulemaking petition on spent fuel accident risks demonstrates the continuing viability of the 1996 License Renewal GEIS. NRC Staff Brief at 25, PG&E Brief at 15. That decision, however, predated the 2009 Draft Revised GEIS and did not relate to the specific question of whether the generic conclusion that spent fuel pool impacts are insignificant could be applied to earthquake risks at DCNPP. In addition, as discussed above, while the Commission’s decision affirmed its

previous conclusion that spent fuel pool risks are insignificant, the technical analysis set forth in the decision acknowledged that partial uncovering of spent fuel poses a greater risk than total instantaneous uncovering.

The Staff and PG&E also contend that any reservations expressed in NUREG-1738 about earthquake risks at spent fuel pools were subsequently laid to rest by mitigative measures and new analyses of spent fuel pool risks. NRC Staff Brief at 19, PG&E Brief at 16, 24. But there is no indication in the Staff and PG&E briefs, the 2009 Draft Revised GEIS, or any other document that the new spent fuel pool risk analyses or mitigative measures took into account the effect of the heightened earthquake risk at DCNPP and other western reactors. Therefore those subsequent analyses have done nothing to resolve the basic problem identified in footnote (a) of the Draft Revised GEIS. By the same token, contrary to PG&E's argument at page 12, the Draft Revised GEIS' conclusion that the impacts of a reactor accident "bound" the impacts of a spent fuel pool accident cannot rationally be applied to the issue of earthquake-caused spent fuel pool accident risks at DCNPP.<sup>4</sup>

Finally, PG&E argues that the concerns raised by SLOMFP are not "unique," as required by 10 C.F.R. § 2.335, because they are common to at least four reactor sites. PG&E Brief at 25. As discussed in SLOMFP's Brief at 17, the choice of whether to proceed generically or on a case-by-case basis with the consideration of new and significant information rests with the Commission. Nevertheless, it is worth noting that the Commission's technical staff

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<sup>4</sup> As SLOMFP stated in its comments on the Draft Revised License Renewal GEIS, the NRC's conflation of spent fuel pool accident impacts with reactor accident impacts ignores fundamental differences between the characteristics of the impacts of those accidents. *See* SLOMFP Brief at 10. While latent fatalities may be the dominant effect of a reactor accident, the dominant effect of a spent fuel pool fire is land contamination and economic damages. *Id.* Obviously, mitigation measures would also differ for reactors and spent fuel pools because of their different structural characteristics.

recommended in NUREG-1738 that earthquake risks for these four sites be examined on a site-specific basis. *Id.* at ix. In addition, the specific circumstances of the DCNPP, which has at least one major earthquake fault on or near the site, would appear to be different from any other site. In any event, the Commission must complete its environmental analysis before taking action on PG&E's license renewal application, regardless of whether the Commission chooses to proceed by rulemaking or adjudication. *Baltimore Gas and Electric Co. v. Natural Resources Defense Council*, 462 U.S. 87, 96 (1983).

## V. CONCLUSION

For the foregoing reasons, the Commission should grant SLOMFP's waiver petition and affirm the ASLB's decision to admit Contention EC-2.

Respectfully submitted,

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October 15, 2010

## CERTIFICATE OF SERVICE

I certify that on October 15, 2010, I posted an San Luis Obispo Mothers for Peace's Reply Brief Regarding the NRC's Duty to Waive 10 C.F.R. § 51.53(c)(2) and 10 C.F.R. Part 51 Subpart A, Appendix B on the NRC's Electronic Information Exchange. It is my understanding that as a result, the following persons were served:

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| <p>Office of the Secretary<br/>And NRC Commissioners<br/>Rules and Adjudications Branch<br/>U.S. Nuclear Regulatory Commission<br/>11555 Rockville Pike<br/>Rockville, MD 20852<br/><a href="mailto:hearingdocket@nrc.gov">hearingdocket@nrc.gov</a></p>   | <p>David A. Repka, Esq.<br/>Tyson R. Smith, Esq.<br/>Winston &amp; Strawn, LLP<br/>1700 K Street N.W.<br/>Washington, D.C. 20006-3817<br/><a href="mailto:drepka@winston.com">drepka@winston.com</a>,<br/><a href="mailto:trsmith@winston.com">trsmith@winston.com</a></p> |
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