

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:)
)
PACIFIC GAS AND ELECTRIC) Docket No. 50-275-LR
COMPANY) Docket No. 50-323-LR
)
(Diablo Canyon Power Plant, Units 1 and 2))

APPLICANT'S BRIEF IN
OPPOSITION TO A WAIVER FOR CONTENTION EC-2

David A. Repka
Tyson R. Smith
Winston & Strawn LLP
1700 K Street, NW
Washington, DC 20006

Jennifer Post
Pacific Gas and Electric Company
77 Beale St., B30A
San Francisco, CA 94105

COUNSEL FOR THE PACIFIC GAS
AND ELECTRIC COMPANY

September 24, 2010

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
II. BACKGROUND	1
III. DISCUSSION.....	3
A. The Commission has repeatedly and conclusively addressed spent fuel pool storage risks for all reactor sites.	3
1. The GEIS conclusions apply to all licensed reactors, including Diablo Canyon.	3
2. The GEIS conclusions are based on numerous studies conducted over many years.	7
3. The Commission has repeatedly rejected contentions challenging the environmental impacts of spent fuel storage.....	8
B. The Commission has previously addressed spent fuel pool storage risks for Diablo Canyon.	10
C. Neither the draft revised GEIS nor NUREG-1738 undermine the Commission’s prior conclusions regarding spent fuel pool storage.	11
1. The proposed revision to the GEIS reaches the same conclusions as the current, applicable GEIS.	12
2. NUREG-1738 does not reflect the Commission’s latest assessment of the risks at spent fuel pools.....	13
3. Contrary to SLOMFP’s assertions, neither the draft revised GEIS nor NUREG-1738 “exclude” Diablo Canyon.....	16
D. A waiver is not warranted.	18
1. Application of the GEIS findings to Diablo Canyon serves the objectives of Part 51, Appendix B, Table B-1.....	20
2. There are no special circumstances present that were not considered in the GEIS rulemaking.	22
3. The spent fuel pool at Diablo Canyon is not unique.....	25
4. A waiver is not necessary to reach a significant safety or environmental problem.	26
IV. CONCLUSION.....	28

TABLE OF AUTHORITIES

	<u>Page(s)</u>
<u>JUDICIAL DECISIONS</u>	
<i>Kelley v. Selin</i> , 42 F.3d 1501 (6th Cir. 1995)	7
<i>New York v. NRC</i> , No. 08-3903, slip op. (2d Cir. Dec. 21, 2009)	9, 10
<i>San Luis Obispo Mothers for Peace v. NRC</i> , 751 F.2d 1287 (D.C. Cir. 1984)	26
<u>ADMINISTRATIVE DECISIONS</u>	
<i>Dominion Nuclear Conn., Inc.</i> (Millstone Nuclear Power Station, Units 2 and 3), LBP-05-16, 62 NRC 56 (2005)	19, 20, 28
<i>Duke Energy Corp.</i> (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328 (1999)	4
<i>Entergy Nuclear Generation Co.</i> (Pilgrim Nuclear Power Station), CLI-10-11, __ NRC __ (slip op. March 26, 2010)	13
<i>Entergy Nuclear Generation Co.</i> (Pilgrim Nuclear Power Station), CLI-10-14, __ NRC __ (slip op. June 17, 2010)	12
<i>Entergy Nuclear Vermont Yankee LLC et al</i> (Vermont Yankee Nuclear Power Station and Pilgrim Nuclear Power Station), CLI-07-3, 65 NRC 13 (2007)	9, 21
<i>Florida Power & Light Co.</i> (Turkey Point Nuclear Generating Station, Units 3 & 4), CLI-01-17, 54 NRC 3 (2001)	4, 7, 8, 27
<i>Houston Lighting & Power Co.</i> (South Texas Projects, Units 1 and 2), CLI-77-13, 5 NRC 1303 (1977)	19, 20
<i>Metropolitan Edison Co.</i> (Three Mile Island Nuclear Station, Unit 1), LBP-80-1, 11 NRC 37 (1980)	19
<i>N. States Power Co.</i> (Monticello Nuclear Generating Plant, Unit 1), CLI-72-31, 5 AEC 25 (1972)	19
<i>Pac. Gas. & Elec. Co.</i> (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-87-25, 26 NRC 168 (1987)	11
<i>Yankee Atomic Electric Co.</i> (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185 (1998)	7

STATUTES AND REGULATIONS

10 C.F.R. Part 50.....5, 6
10 C.F.R. Part 51.....1, 2, 3, 10, 19
10 C.F.R. § 2.206.....21
10 C.F.R. § 2.335.....2, 19
10 C.F.R. § 2.802.....21
10 C.F.R. § 50.54.....15
10 C.F.R. § 51.53.....1, 2, 19

FEDERAL REGISTER NOTICES

52 Fed. Reg. 38977 (Oct. 20, 1987).....11, 26, 27
55 Fed. Reg. 38474 (Sept. 18, 1990).....4, 5, 23
56 Fed. Reg. 64943 (Dec. 13, 1991).....27
61 Fed. Reg. 28467 (June 5, 1996).....6
73 Fed. Reg. 46204 (Aug. 8, 2008).....7, 10, 14, 15, 16, 22, 24
73 Fed. Reg. 59551 (Oct. 9, 2008).....5
74 Fed. Reg. 38117 (July 31, 2009).....13

MISCELLANEOUS

NUREG-1353, “Regulatory Analysis for the Resolution of Generic Issue 82, Beyond Design Basis Accidents in Spent Fuel Pools” (April 1989)7
NUREG-1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Appendices, Draft Report for Comment” (July 2009)3, 10
NUREG/CR-4982, “Severe Accidents in Spent Fuel Pools in Support of Generic Safety Issue 82” (July 1987)8
NUREG/CR-5176, “Seismic Failure and Cask Drop Analysis of the Spent Fuel Pools at Two Representative Nuclear Power Plants” (Jan. 1989).....8
NUREG/CR-5281, “Value/Impact Analysis of Accident Preventive and Mitigative Options for Spent Fuel Pools” (March 1989).....8
WASH-1400 (NUREG-75/014), “Reactor Safety Study: An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants” (1975).....7

September 24, 2010

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:)
)
PACIFIC GAS AND ELECTRIC) Docket No. 50-275-LR
COMPANY) Docket No. 50-323-LR
)
(Diablo Canyon Power Plant, Units 1 and 2))

APPLICANT’S BRIEF IN
OPPOSITION TO A WAIVER FOR CONTENTION EC-2

I. INTRODUCTION

Pursuant to the Commission’s Order, dated August 31, 2010, Pacific Gas and Electric Company (“PG&E”) hereby submits its brief opposing a waiver with respect to 10 C.F.R. § 51.53(c)(2) and 10 C.F.R. Part 51, Appendix B, to permit litigation of Contention EC-2 in connection with the license renewal application for the Diablo Canyon power plant. San Luis Obispo Mothers for Peace (“SLOMFP”) has not demonstrated that a waiver of Commission regulations is warranted. The NRC has repeatedly and conclusively addressed the environmental impacts of spent fuel pool storage for all facilities, including Diablo Canyon. There are no “special circumstances” that were not considered in the rulemaking proceeding leading to the rule sought to be waived. A waiver of the NRC’s regulations also is not necessary to reach a significant safety or environmental issue. Accordingly, the waiver request should be denied and Contention EC-2 rejected.

II. BACKGROUND

SLOMFP filed its “Request for Hearing and Petition to Intervene” (“Petition” or “Pet.”) on March 22, 2010. In proposed Contention EC-2, SLOMFP asserts that PG&E’s

Environmental Report (“ER”) for Diablo Canyon license renewal is inadequate because it does not address the airborne environmental impacts of a reasonably foreseeable spectrum of spent fuel pool accidents, including accidents caused by earthquakes. Pet. at 16. SLOMFP acknowledges that spent fuel storage is a Category 1 issue under NRC’s license renewal regulations (*see* 10 C.F.R. Part 51, Appendix B, Table B-1) and that the issue therefore is not required to be discussed in each license renewal application. Nevertheless, SLOMFP seeks to challenge the conclusions in the license renewal GEIS that were incorporated into the ER. Relying on a draft update to the GEIS, SLOMFP asserts that the conclusions in the actual GEIS are inapplicable to Diablo Canyon (Pet. at 16-19) and seeks a waiver of the NRC’s regulations that apply the GEIS conclusions to the Diablo Canyon license renewal application. *See* “San Luis Obispo Mothers for Peace’s Petition for Waiver of 10 C.F.R. Part 51 Subpart A Appendix B and 10 C.F.R. § 51.53(c)(2),” dated March 22, 2010 (“Waiver Request”). Both PG&E and the NRC Staff opposed the waiver and the admission of Contention EC-2.

The Licensing Board in LBP-10-15 evaluated both the Waiver Request and the admissibility of Contention EC-2.¹ The Board found that SLOMFP had made a *prima facie* showing with respect to the criteria in 10 C.F.R. § 2.335(d) and therefore that the Waiver Request should be certified to the Commission for full briefing and a decision as to whether a waiver is warranted. LBP-10-15 at 40. The Board did not find that SLOMFP should ultimately prevail on the merits for a waiver. Instead, the Board addressed only whether SLOMFP provided sufficient information in support of its Waiver Request to warrant requiring a substantive response and rebuttal by PG&E and the NRC Staff. As discussed below, on the merits SLOMFP has not satisfied the Commission’s criteria for granting a waiver.

¹ Memorandum and Order (Rulings on Standing, Contention Admissibility, Waiver Petition, and Selection of Hearing Procedures), LBP-10-15 (slip op. August 4, 2010).

III. DISCUSSION

Contention EC-2 and the related Waiver Request rely upon SLOMFP's mistaken assertions that the draft revised Generic Environmental Impact Statement ("GEIS") for License Renewal² presents new information material to the Diablo Canyon application. LBP-10-15 at 50 n.66. Specifically, SLOMFP asserts that the draft GEIS "excludes" Diablo Canyon from its generic analysis because the draft GEIS relies, in part, on NUREG-1738, "Technical Study of the Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants" (January 2001). But, the Commission has consistently addressed the environmental impacts of spent fuel pool storage generically for all plants, including Diablo Canyon. This is true for both the GEIS and the draft revised GEIS. And, SLOMFP's reading of NUREG-1738 is simply incorrect. NUREG-1738 does not undermine the generic conclusions in either the current GEIS or the draft GEIS revision.

A. The Commission has repeatedly and conclusively addressed spent fuel pool storage risks for all reactor sites.

The thrust of SLOMFP's argument is that the Commission's generic conclusions regarding the environmental impacts of spent fuel storage are not applicable to Diablo Canyon. However, the Commission has never indicated that site-specific consideration of the environmental impacts of spent fuel storage is necessary — at Diablo Canyon or any other site. Indeed, the Commission's consistent conclusion, based on design reviews and operating experience, has been that spent fuel pool risk is low at all plants.

1. *The GEIS conclusions apply to all licensed reactors, including Diablo Canyon.*

The environmental consequences of spent fuel storage, including pool accidents, is a Category 1 environmental issue for license renewal. 10 C.F.R. Part 51, Appendix B, Table

² See NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Appendices, Draft Report for Comment" (July 2009) ("draft revised GEIS").

B-1. The Commission's rules reflect its conclusion that "[t]he expected increase in the volume of spent fuel from an additional 20 years of operation can be safely accommodated on site with small environmental effects through dry or pool storage at all plants if a permanent repository or monitored retrievable storage is not available." *Id.* (emphasis added); *see Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 343-44 (1999). The GEIS finding specifically encompasses spent fuel accident risks and accident mitigation alternatives. *See* GEIS, at xlvi, 6-72 to 6-76; 6-80 to 6-81; 6-86, 6-92; *Florida Power & Light Co.* (Turkey Point Nuclear Generating Station, Units 3 & 4), CLI-01-17, 54 NRC 3, 21 (2001).

Although SLOMFP asserts that conclusions in the GEIS were made "with very little discussion" (Pet. at 16), the GEIS in fact provides a full discussion of the background analyses and justification for this generically applicable finding. GEIS at 6-70 to 6-86. The GEIS also takes full account of "the total accumulated volumes of spent fuel after an additional 20 years of operation." *Id.* at 6-79; *see also id.* at 6-80 to 6-81. With respect to the specific concern raised by SLOMFP (the environmental impacts of seismically-generated events), the GEIS concludes that, "even under the worst probable cause of a loss of spent-fuel pool coolant (a severe seismic-generated accident causing a catastrophic failure of the pool), the likelihood of a fuel-cladding fire is highly remote. *Id.* at 6-75 (citing 55 Fed Reg. 38474 (Sept. 18, 1990)). The GEIS also notes that "[i]ndustry experience with spent-fuel storage, coupled with supplemental studies of the integrity of pool and dry storage systems, indicates that spent fuel generally can be stored safely on site with minimal environmental impacts." *Id.* at 6-80 (citing 55 Fed. Reg. at 38474 and NUREG-1092). These statements regarding the low risk involved in spent fuel storage in a spent fuel pool unambiguously apply to all plants.

The Commission also based its conclusions on the history of spent fuel storage at operating reactors. The GEIS explains that “[c]urrent and potential environmental impacts from spent-fuel storage have been studied extensively and are well understood.” GEIS at 6-81. The GEIS notes that storage of spent fuel in spent fuel pools was considered for each plant in the safety and environmental reviews at the construction permit and operating license stage. *Id.* According to the GEIS, the design and operating conditions of spent-fuel pools and their various auxiliary systems ensure that the design criteria of Appendix A to 10 C.F.R. Part 50 are met. *Id.* at 6-82. These criteria address (1) control of releases of radioactive materials to the environment, (2) fuel storage and handling and radioactivity control, (3) prevention of criticality in fuel storage and handling, (4) monitoring fuel and waste storage, and (5) monitoring radioactive releases.³ *Id.* These criteria ensure that radioactive releases to the environment are controlled and acceptable and that effluent discharge paths and the plant environs are monitored for radioactivity.

The GEIS also addressed the need for consideration of accident mitigation alternatives within the context of license renewal. In discussing spent fuel pool accidents, the Commission stated:

The fuel-handling structures also have accident-mitigating systems. Spent fuel is handled and stored under water, which would tend to greatly reduce the amount of radioactive material released to the building environment in

³ As a result, spent fuel pools are extremely robust structures that are designed to safely contain spent fuel under a variety of normal, off-normal, and hypothetical accident conditions (*e.g.*, loss of electrical power, floods, earthquakes, tornadoes). “Waste Confidence Decision Update,” 73 Fed. Reg. 59551, 59568 (Oct. 9, 2008). Spent fuel pools are massive structures made of reinforced concrete with walls typically over six feet thick, lined with welded stainless steel plates to form a generally leak-tight barrier, fitted with racks to store the fuel assemblies in a controlled configuration and provided with redundant monitoring, cooling, and make-up water systems. *Id.* Spent fuel stored in pools is typically covered by about 25 feet of water that serves as both shielding and an effective protective cover against impacts directly on the stored fuel. *Id.*

the event of fuel failure. A safety-grade exhaust air ventilation subsystem contains both charcoal and high-efficiency particulate filters. The ventilation systems are also designed to keep the area around the spent-fuel pool below the prevailing barometric pressure during fuel-handling operations to minimize the outleakage through building openings. Upon detection of high radiation, exhaust air is routed through the filter units, and radioactive iodine and particulate fission products which escaped from the spent fuel pool would be removed from the flow stream before exhausting to the atmosphere.

GEIS at 5-9.

The GEIS therefore rejected the need for further consideration of mitigation alternatives related to spent fuel storage (including spent fuel pools) at the license renewal stage. The Commission concluded that regulatory requirements already in place provide adequate mitigation incentives for on-site storage of spent fuel. *Id.* at 6-86. Indeed, for all issues designated as Category 1, the Commission concluded that additional site-specific mitigation alternatives are unlikely to be beneficial and need not be considered for license renewal. *See* “Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, Final Rule,” 61 Fed. Reg. 28467, 28484 (June 5, 1996); GEIS at 1-5, 1-9.

Based on the above, the Commission reached the overall conclusion that on-site storage of spent fuel during the term of a renewed license will have small environmental impacts “for each plant.” *Id.* at 6-86. The GEIS explains that there is “ample basis to conclude that continued storage of existing spent fuel and storage of spent fuel generated during the license renewal period can be accomplished safely and without significant environmental impacts.” *Id.* at 6-85. Thus, the GEIS conclusions regarding the environmental impacts of spent fuel storage

during the license renewal term address onsite spent fuel storage generically for all plants, including Diablo Canyon, without exception.⁴

2. *The GEIS conclusions are based on numerous studies conducted over many years.*

The GEIS was not the first NRC document to address the impacts and risks associated with on-site spent fuel storage. The NRC has spent years studying in great detail the risks and consequences of potential spent fuel pool accidents, and the GEIS analysis is rooted in these earlier studies.

The risk of beyond design basis accidents involving spent fuel pools was first examined as part of the landmark study described in WASH-1400 (NUREG-75/014), “Reactor Safety Study: An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants” (1975). That study found the risk involving spent fuel pools to be several orders of magnitude below those involving the reactor core. 73 Fed. Reg. 46204, 46207 (Aug. 8, 2008). The GEIS also relies, in part, on NUREG-1353, “Regulatory Analysis for the Resolution of Generic Issue 82, Beyond Design Basis Accidents in Spent Fuel Pools” (April 1989). NUREG-1353 concludes that “most of the spent fuel pool risk is derived from beyond design basis earthquakes, [but] this risk is no greater than the risk from core damage accidents due to seismic events beyond the safe-shutdown earthquake.” NUREG-1353 at ES-4; *see also Turkey Point*, CLI-01-17, 54 NRC at 22 n.11.

Regarding mitigation, the NRC also previously analyzed accident preventive and mitigative options intended to reduce the risks posed by spent fuel pools. *See, e.g.*, NUREG/CR-5281, “Value/Impact Analysis of Accident Preventive and Mitigative Options for Spent Fuel

⁴ In the area of waste storage, the Commission largely has chosen to proceed generically. *See generally Kelley v. Selin*, 42 F.3d 1501, 1512-14 (6th Cir.), *cert. denied*, 515 U.S. 1159 (1995); *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 204-05, 211-13 (1998).

Pools” (March 1989). The results of the analyses indicated that additional mitigation measures were in general not likely to be cost effective. NUREG/CR-5281 at iii, viii, 47. The NRC also relied on other assessments of spent fuel pools, including assessments focusing on seismic risk. *See, e.g.*, NUREG/CR-5176, “Seismic Failure and Cask Drop Analysis of the Spent Fuel Pools at Two Representative Nuclear Power Plants” (Jan. 1989); NUREG/CR-4982, “Severe Accidents in Spent Fuel Pools in Support of Generic Safety Issue 82” (July 1987).

The NRC’s various studies as well as operational experience support the Commission’s conclusion that onsite reactor spent fuel storage, which has continued safely for decades, presents no undue risk to public health and safety for all plants. *See Turkey Point*, CLI-01-17, 54 NRC at 21. All plants, including Diablo Canyon, are designed and constructed to meet NRC requirements and to address site-specific hazards. Accordingly, Diablo Canyon (like other plants in the western United States) has never been excluded from the generic conclusions.

3. *The Commission has repeatedly rejected contentions challenging the environmental impacts of spent fuel storage.*

The Commission has rejected numerous contentions related to spent fuel storage in the past. For example, in *Turkey Point*, the Commission addressed a proposed license renewal contention that challenged the performance of the spent fuel pool during a hurricane (an external event relatively more prevalent at that site). Although the proposed contention was not accompanied by a waiver request, the Commission rejected the challenge noting that “Part 51 treats all spent fuel pool accidents, whatever their cause, as generic, Category 1 events not suitable for case-by-case adjudication.” CLI-01-17, 54 NRC at 22. The Commission explained that the GEIS conclusions are based on a series of studies that considered spent fuel pool accidents and concluded that the risk of accidents is acceptably small. *Id.*, n.11. Although the postulated initiating event is different (an earthquake instead of a hurricane), the same conclusion

applies to SLOMFP's challenge to the performance of the spent fuel pool at Diablo Canyon following a seismic event.

The Commission also rejected challenges in the Vermont Yankee and Pilgrim license renewal proceedings based on allegedly “new and significant information” related to spent fuel pool storage risks. *Entergy Nuclear Vermont Yankee LLC et al* (Vermont Yankee Nuclear Power Station and Pilgrim Nuclear Power Station), CLI-07-3, 65 NRC 13, 19-21 (2007). The Commission explained that “[a]djudicating Category 1 issues site by site based merely on a claim of “new and significant information,” would defeat the purpose of resolving generic issues in a GEIS.” *Id.* at 21.

Outside the adjudicatory context, the Commission denied a petition for rulemaking related to spent fuel pool accidents and the generic conclusions in the GEIS. Two States filed rulemaking petitions (Massachusetts in 2006 and California in 2007) asking the NRC to reverse its findings in the GEIS, which found that spent fuel pools at nuclear power plants do not create a significant environmental impact within the meaning of the National Environmental Policy Act (“NEPA”). *New York v. NRC*, No. 08-3903, slip op. at 4 (2d Cir. Dec. 21, 2009). Massachusetts and California contended that the information in their rulemaking petitions showed a greater risk of fire from on-site storage of spent fuel than previously appreciated, and therefore that the environmental impact should no longer be discounted as small; they further contended that the risk should be evaluated plant-by-plant (rather than generically). *Id.* at 6. The NRC consolidated — and denied — the rulemaking petitions in a 2008 decision.⁵ “Denial of Petitions for Rulemaking,” 73 Fed. Reg. 46204 (Aug. 8, 2008).

⁵ The Second Circuit subsequently upheld the NRC's decision, concluding that the NRC's decision to deny the rulemaking petitions was reasoned; it considered the relevant studies, and it took account of the relevant factors. *New York*, slip op. at 11-12.

The issues presented in the rulemaking petitions are nearly identical to those raised by SLOMFP in this license renewal proceeding. California and Massachusetts argued that the GEIS incorrectly concluded that the environmental impacts of spent fuel storage are small. 73 Fed. Reg. at 46205. The petitioners requested that licensees be required to address alternatives to avoid, or mitigate, the impacts of spent fuel pool zirconium fires in conjunction with license renewal. *Id.* The petitions relied, in part, on allegedly “new and significant” information contained in NUREG-1738. This is the same study that SLOMFP is alleging presents new and significant information related to license renewal for Diablo Canyon. *See* Curran Decl. ¶¶6-10. In rejecting the petition for rulemaking, the NRC dismissed the assertions based on NUREG-1738 and spent fuel storage risks. The Commission found that NUREG-1738 did not present new and significant information. The Commission then reaffirmed that its generic findings in NUREG-1437, as further reflected in Table B-1 of Appendix B to 10 C.F.R. Part 51, remain valid for all plants. 73 Fed. Reg. at 46211.

B. The Commission has previously addressed spent fuel pool storage risks for Diablo Canyon.

While SLOMFP suggests that a waiver is necessary in order to ensure that the potential environmental impacts of spent fuel pool storage are adequately considered, in fact the environmental impacts of spent fuel pool storage at Diablo Canyon have been evaluated previously on a site-specific basis in addition to the generic bases discussed above.⁶ The NRC previously considered the risks associated with spent fuel pool storage, including the risks from severe accidents, in connection with a license amendment to expand spent fuel pool storage

⁶ The GEIS also noted that the NRC had prepared Environmental Assessments (“EAs”) for expanding the fuel-pool storage capacity at more than 50 plants and explained that the NRC found no significant environmental impact for any of the spent fuel pool capacity expansions. GEIS at 6-87.

capacity at Diablo Canyon. *See* Letter from C. Trammel, NRC, to J. D. Shiffer, PG&E, “Supplement to the Safety Evaluation and the Environmental Assessment — Diablo Canyon Rerack,” dated October 15, 1987 (ADAMS Accession No. 8710220412). The NRC concluded that there were no significant radiological or non-radiological impacts associated with the proposed action and that the spent fuel pool would not have a significant impact on the environment.⁷ “Diablo Canyon Nuclear Power Plant; Supplement to Environmental Assessment and Finding of No Significant Impact,” 52 Fed. Reg. 38977, 38978 (Oct. 20, 1987). The performance of the spent fuel pools during a postulated earthquake was also specifically addressed during an NRC hearing on the spent fuel pool amendment application. *See Pac. Gas. & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-87-25, 26 NRC 168, 198-199 (1987). The NRC’s conclusions for the prior site-specific license amendment are fully consistent with the generic conclusions presented in the GEIS.

C. Neither the draft revised GEIS nor NUREG-1738 undermine the Commission’s prior conclusions regarding spent fuel pool storage.

As noted above, the primary thrust of the Waiver Request is SLOMFP’s assertion that the draft revised GEIS “excludes” Diablo Canyon from its conclusions regarding the environmental impacts of spent fuel pool storage. SLOMFP’s conclusion is based on two faulty assumptions: (1) that NUREG-1738 is the sole basis for the draft revised GEIS conclusion that the environmental impacts of spent fuel pool storage are small; and (2) that NUREG-1738 does not address spent fuel pool risks at Diablo Canyon and other western reactors sites. According to SLOMFP, these two assertions, read together, prove that the draft revised GEIS excludes Diablo Canyon from its conclusions. But, as discussed below, this conclusion is based on a misreading

⁷ The NRC also explained that beyond-design-basis accidents, such as criticality accidents and zirconium fires, are not reasonably foreseeable and therefore not required to be discussed under NEPA.

of both the draft revised GEIS and NUREG-1738. SLOMFP also fails to account for more recent Commission decisions that expand upon and reaffirm the basis for the GEIS conclusions that the environmental impacts of spent fuel pool storage are small.

1. *The proposed revision to the GEIS reaches the same conclusions as the current, applicable GEIS.*

SLOMFP's Waiver Request rests on the assumption that the "NRC now relies on an entirely new set of risk analyses and mitigative measures than it did in the 1996 License Renewal GEIS."⁸ Waiver Request at 2. But, SLOMFP ignores the actual conclusions in the draft revised GEIS. The draft revised GEIS concludes that "the environmental impacts stated in the 1996 GEIS bound the impact from [spent fuel pool] accidents." Draft GEIS at E-37. As the Commission noted recently, the NRC currently is in the process of revising the GEIS, but "[t]he proposed GEIS revision does not change the Category 1 finding for onsite spent fuel storage." *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-10-14, __ NRC __ (slip op. June 17, 2010) at 35 n.146; *see also* "Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses; Proposed Rule," 74 Fed. Reg. 38117 (July 31, 2009).

The draft GEIS also reaches the same generic conclusion as the current GEIS with respect to spent fuel storage accident mitigation. The draft GEIS describes the potential for any cost-effective SAMAs related to the spent fuel pool as "substantially less than for reactor accidents." *See Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-10-11,

⁸ As a threshold matter, there is a significant procedural deficiency associated the purported basis for SLOMFP's arguments. Because the draft revised GEIS has not been finalized, SLOMFP cannot claim that "with respect to Diablo Canyon, the Draft Revised GEIS effectively withdraws the 1996 GEIS' statement of confidence that spent fuel pool fire impacts would be insignificant." SLOMFP Reply at 12, 13 n.13. SLOMFP's conclusion is premature. As a draft, the proposed GEIS revision does not represent the final position of the agency and therefore could not change the applicability of the GEIS to Diablo Canyon.

__ NRC __ (slip op. March 26, 2010) at 33 n. 125 (citing Draft GEIS at E-42). On this basis, the draft GEIS concludes that no change is warranted to the existing GEIS conclusion that mitigation alternatives for spent fuel pool accidents need not be considered on a site-specific basis.⁹ *Id.*

The conclusions in the draft revised GEIS are intended to apply to all plants — without exception. There 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.

2. *NUREG-1738 does not reflect the Commission's latest assessment of the risks at spent fuel pools.*

SLOMFP's reliance on NUREG-1738 as the sole basis for its Waiver Request is also misplaced. To date, the study has not been endorsed by the Commission as part of the considerations underlying any rule or regulation. The NRC used many conservative assumptions in preparing the report to simplify the analyses.¹⁰ As a result, the NRC has cautioned that the report should be used only to show that there is an additional margin of safety, not to compel regulatory decisions. For example, NUREG-1738 took for granted the proposition that spent fuel stored in a spent fuel pool, regardless of age, may be potentially vulnerable to a partial drain down event. NUREG-1738 also conservatively assumed that if the water level in the spent fuel pool drops below the top of the spent fuel, a zirconium fire involving all of the spent fuel will

⁹ The GEIS notes that the Commission's "regulatory requirements already in place provide adequate mitigation incentives for on-site storage of spent fuel." *Id.* at 6-86.

¹⁰ Former members of the Commission (McGaffigan and Diaz) have stated publicly that NUREG-1738 suffers from excessive conservatism that renders its utility in regulatory decisionmaking suspect. For example, in an April 17, 2003, speech at the Regulatory Information Conference (No. S-03-012), Commissioner McGaffigan lamented the fact that, in some cases, NRC Staff or contractor studies, which themselves either have errors, or made non-physical simplifying assumptions, are misused to make extraordinary claims about spent fuel pool vulnerabilities. According to Commissioner McGaffigan, "the worst of these NRC staff studies was NUREG-1738, a study which the staff released in January 2001, but which the Commission never endorsed because of our deep misgivings about it."

occur. But, even when all events leading to the spent fuel assemblies becoming partially or completely uncovered were assumed to result in a spent fuel pool zirconium fire, the study found the risk of a spent fuel pool fire to be low and well within the Commission's Safety Goals. This conclusion, which is based on several unrealistically conservative assumptions, bounds the expected risks associated with spent fuel pools. In light of these conservatisms, NUREG-1738 cannot, standing alone, demonstrate that spent fuel pool risks at Diablo Canyon are different than those described in the GEIS. That was simply not the purpose of the study.

Subsequent Commission decisions and studies highlight NUREG-1738's inherent limitations. The Commission's denial of the petition for rulemaking on spent fuel pool risks reflects the agency's most recent pronouncement on spent fuel pool storage and reaffirms the conclusions of the GEIS. *See* 73 Fed. Reg. at 46208. The NRC explained that the Sandia studies provide "a more realistic assessment of the coolability of spent fuel under a range of conditions and a better understanding of the actual safety margins than was indicated in NUREG-1738." *Id.* According to the Commission, the Sandia studies have consistently and conclusively shown that the safety margins are much larger than indicated by previous studies such as NUREG-1738.¹¹ *Id.* The Commission noted that the analysis in NUREG-1738 did not attempt to

¹¹ The Sandia studies considered spent fuel loading patterns and other aspects of a pressurized-water reactor spent fuel pool, including the role that the circulation of air plays in the cooling of spent fuel. 73 Fed. Reg. at 46208. The studies indicated that there may be a significant amount of time between the initiating event (*i.e.*, the event that causes the pool water level to drop) and the spent fuel assemblies becoming partially or completely uncovered. *Id.* In addition, the Sandia studies indicated that, for those hypothetical conditions where air cooling may not be effective in preventing a zirconium fire (*i.e.*, a partial drain down scenario), there is a significant amount of time between the spent fuel becoming uncovered and the possible onset of such a zirconium fire. *Id.* This time lag provides a substantial opportunity for both operator and system event mitigation. The Sandia studies, which more fully account for relevant heat transfer and fluid flow mechanisms, also indicated that air-cooling of spent fuel would be sufficient to prevent spent fuel pool zirconium fires at a point much earlier following fuel offload from the

specifically address a number of issues and actions that would substantially reduce the likelihood of a zirconium fire, potentially rendering the frequency estimate to be remote and speculative. *Id.* at 46209. For example, NUREG–1738 did not account for the additional time available following the spent fuel being partially or completely uncovered, but prior to the onset of a zirconium fire, that would allow for plant operator actions, makeup of spent fuel pool water levels, and other mitigation measures. *Id.* In addition, NUREG–1738 did not consider the impact of plant and procedure changes implemented as a result of the events of the September 11, 2001, terrorist attacks. *Id.* NUREG–1738 also acknowledged that the likelihood of a zirconium fire could be reduced by accident management measures, but did not include such accident management measures in its analysis. *Id.*

In denying the rulemaking petition, the Commission also explained that additional mitigation strategies implemented subsequent to September 11, 2001, enhance spent fuel coolability and the potential to recover spent fuel pool water level and cooling prior to a potential zirconium fire. *See, e.g.*, 10 C.F.R. § 50.54(hh) (requiring strategies to main or restore spent fuel pool cooling capabilities). The Sandia studies also confirmed the effectiveness of additional mitigation strategies to maintain spent fuel cooling in the event the pool is drained and its initial water inventory is reduced or lost entirely. 73 Fed. Reg. at 46208. Based on this more recent information, and the implementation of additional strategies following September 11, 2001, the Commission concluded that the probability, and accordingly the risk, of a zirconium fire is less than reported in NUREG–1738. *Id.* Taking into account the robust design of the spent fuel pools and the physical security and mitigation measures in place, the NRC determined that the risk of a spent fuel pool zirconium fire is very low. *Id.* Based in part on the conservatisms of

reactor than previously considered (*e.g.*, in NUREG–1738). *Id.* Thus, the fuel is more easily cooled, and the likelihood of a spent fuel pool fire is therefore reduced.

NUREG-1738 and after reviewing the petitions and the public comments received on the petition for rulemaking, the NRC determined that its generic findings in NUREG-1437 and in Table B-1 remain valid, both for spent fuel pool accidents and for potential terrorist attacks that could result in a zirconium fire. *Id.* at 46206.

The NRC reached the same conclusion in the draft revised GEIS. Draft GEIS at 4-156. The NRC explained that “[s]ubsequent analyses performed, and mitigative measures employed since 2001 have further lowered the risk of [spent fuel pool accidents].” *Id.* The NRC reiterated that “even the conservative estimates from NUREG-1738 are much less than the impacts from full power reactor accidents as estimated in the 1996 GEIS.” *Id.* The NRC also noted that, as a result of the September 11, 2001, terrorist attacks, additional analysis was performed on spent fuel pool security. *Id.* at E-33. The NRC highlighted the conservatisms in NUREG-1738 and referenced the more realistic Sandia studies. *Id.* at E-35-36. The NRC also cross-referenced its denial of the rulemaking petition. *Id.* at E-36. Thus, SLOMFP’s assertion that NUREG-1738 is the sole basis for the conclusions in the draft revised GEIS is not accurate. As it did with respect to the GEIS, the NRC in the draft revised GEIS relied on numerous studies in reaching its generic conclusion.

Based on all this information, the draft GEIS confirmed that the environmental impacts described in the 1996 GEIS bound the impact from spent fuel pool accidents. *Id.* at E-37. As with the GEIS, the draft revised GEIS and other spent fuel pool evaluations, the Commission decision is applicable to all plants, including Diablo Canyon.

3. *Contrary to SLOMFP’s assertions, neither the draft revised GEIS nor NUREG-1738 “exclude” Diablo Canyon.*

Even ignoring the plain language of both the current GEIS and the draft revised GEIS, the draft revised GEIS does not — by relying in part on NUREG-1738 — exclude Diablo

Canyon from its conclusion that the environmental impacts of spent fuel pool storage are small. SLOMFP argues that the risk evaluation in NUREG-1738 “does not apply to Diablo Canyon” because NUREG-1738 does not address “SFP accidents outside the eastern and central United States.” Pet. at 17; *see also* Curran Decl. ¶7. But, SLOMFP has not taken into account the limited purpose of NUREG-1738 when requesting the waiver. NUREG-1738 addresses plants that are in decommissioning status (*i.e.*, no longer operating) and have fewer protective features for the prevention or mitigation of spent fuel pool accidents. NUREG-1738 at ix; *see also* Draft GEIS at E-34. The study was undertaken to support development of a risk-informed technical basis for reviewing exemption requests related to *relaxing* offsite emergency preparedness requirements during decommissioning. NUREG-1738 at ix. The stated purpose of NUREG-1738 is therefore very different from the manner in which SLOMFP is attempting to use the study in support of a waiver. Even if NUREG-1738 did exclude Diablo Canyon, that would not mean that the GEIS or draft revised GEIS would or should exclude Diablo Canyon.

The comment in NUREG-1738 relied upon by SLOMFP is taken out of context.¹² NUREG-1738 uses a pool performance guideline (“PPG”) as indicator of low risk at decommissioning facilities and concludes that risk of zirconium fire is low for all plants that meet the PPG. *Id.* at ix. NUREG-1738 (at ix) states that, with one exception, central/eastern sites could meet the PPG simply by implementing industry decommissioning commitments (“IDCs”) and staff decommissioning assumptions (“SDAs”). For western plants, compliance with the PPG would need to be demonstrated on a plant-specific basis (*i.e.*, implementation of the IDCs and SDAs are not necessarily sufficient). NUREG-1738 at 4-3. Importantly, no

¹² Although SLOMFP focuses on the seismic aspects of NUREG-1738, the study was not so limited. NUREG-1738 also considers other initiating events, including loss of cooling, loss of coolant, loss of offsite power (grid or severe weather), internal fire, heavy load drops, aircraft crashes, and tornados.

operating plant — whether in the eastern, central, or western United States — is required to implement the IDCs or SDAs (or meet the PPG) as a matter of present day compliance. By SLOMFP’s logic, unless a plant seeking license renewal affirmatively demonstrates that it meets the PPG, then it would fall outside the GEIS. This is obviously not the intent of NUREG-1738 nor would it be consistent with the conclusions in the GEIS and the draft GEIS revision.

Additionally, the mere fact that more than IDCs and SDAs may be necessary to meet the PPG for Diablo Canyon does not prevent the NRC from generically concluding that risk of a zirconium fire is low for all plants. NUREG-1738 concludes that, if a plant meets the PPG, then the risk is low. The inverse, however, is not necessarily true. There is no basis in NUREG-1738 for SLOMFP’s conclusion that the risk at Diablo Canyon is not low. NUREG-1738 does not suggest that the risk of spent fuel pool fires at western sites is any more or any less than at the eastern/central sites. While the design basis earthquake at Diablo Canyon may be larger than at other sites, this does not mean that site is more vulnerable to an earthquake. The Diablo Canyon seismic design basis provides the acceptable level of protection as required by the NRC’s seismic design criteria.

At bottom, SLOMFP’s single-minded focus on the seismic aspects of NUREG-1738 ignores the overall purpose and intent of the study. The Waiver Request is based on isolated statements in NUREG-1738, without regard for the operational, regulatory, and technical context in which those statements were made. Neither NUREG-1738 nor the draft revised GEIS undermine the unambiguous findings in the current GEIS or warrant revisiting the Commission’s denial of the petition for rulemaking.

D. A waiver is not warranted.

As a general proposition, no rule or regulation of the Commission is subject to attack in any adjudicatory proceeding. 10 C.F.R. § 2.335(a). However, a party may petition that

application of a specified Commission rule or regulation be waived or an exception made for a particular proceeding. *Id.* at § 2.335(b). Here, SLOMFP has requested a waiver from 10 C.F.R. Part 51, Appendix B, and 10 C.F.R. § 51.53(c)(2).

Because waivers should only be granted in “unusual and compelling circumstances,” relatively few waiver petitions have been filed in NRC adjudicatory proceedings, and even fewer have met the high threshold for granting a waiver. *N. States Power Co.* (Monticello Nuclear Generating Plant, Unit 1), CLI-72-31, 5 AEC 25, 26 (1972). A party has requested a waiver before a Licensing Board in 26 published cases. The Board recommended or certified only two published waiver requests to the Commission. The Commission denied the petitions in both cases.¹³ The Commission in published decisions has granted only one waiver petition. *See Houston Lighting & Power Co., et al.* (South Texas Projects, Units 1 and 2), CLI-77-13, 5 NRC 1303, 1322 (1977) (granting waiver of the requirement that initiation of operating license antitrust review procedures await submission of the FSAR).¹⁴ This precedent confirms that a party must meet a stringent test in order to justify a waiver.

According to Commission regulations and case law, to grant a waiver the Commission must conclude that:

¹³ *See Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-05-16, 62 NRC 56, 74-75 (2005) (certifying to the Commission a waiver involving emergency planning); *order on certification*, CLI-05-24, 62 NRC 551, 560 (2005) (denying waiver petition for failing to satisfy the threshold standards for a waiver); *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), LBP-80-1, 11 NRC 37, 29-40 (1980) (certifying to the Commission a waiver of the design basis assumptions involving hydrogen gas following a loss-of-coolant accident); *order on certification*, CLI-80-16, 11 NRC 674, 675-77 (1980) (denying waiver because there were no special circumstances).

¹⁴ In *Houston Lighting & Power*, no party objected to the applicant requesting the waiver directly from the Commission. 5 NRC at n.6.

- (i) The rule's strict application "would not serve the purposes for which [it] was adopted;"
- (ii) The person seeking the waiver has alleged "special circumstances" that were "not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived;"
- (iii) Those circumstances are "unique" to the facility rather than "common to a large class of facilities;" and
- (iv) A waiver of the regulation is necessary to reach a "significant safety problem."

See *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 560 (2005) (internal citations omitted). The use of "and" in this list of requirements is both intentional and significant. *Id.* For a waiver request to be granted, *all four* factors must be met. *Id.* SLOMFP has not satisfied any of the criteria, much less all four.

1. *Application of the GEIS findings to Diablo Canyon serves the objectives of Part 51, Appendix B, Table B-1.*

With respect to the first criterion, PG&E agrees with SLOMFP that the purpose of Table B-1, is "to codify and apply a generic determination, made in the 1996 License Renewal GEIS, that spent fuel may be safely stored at reactor sites ... without imposing any significant environmental risk." Curran Decl. at ¶4. However, SLOMFP also argues that NUREG-1738 constitutes new information that undermines the generic conclusions in the GEIS such that application of the GEIS findings to Diablo Canyon would be inappropriate. Waiver Request at 3-4. But, the mere assertion of new and significant information does not establish that application of the rule would run counter to the objectives of the rule codifying the GEIS.

Indeed, as the Commission stated in CLI-07-3, "[a]djudicating category one issues site-by-site based merely on a claim of 'new and significant information,' would defeat the purpose of resolving generic issues in a GEIS." *Vermont Yankee*, CLI-07-3, 65 NRC at 21.

Instead, there are other, non-adjudicatory processes for raising concerns regarding the continued generic applicability of the rule/GEIS. In addition to the public comment process for the GEIS rulemaking, there has been a public comment period associated with the GEIS revision, and there will be a comment period for site-specific supplement to the GEIS. Moreover, NRC regulations provide two other procedural mechanisms (10 C.F.R. §§ 2.206 and 2.802) by which SLOMFP may pursue its concerns about the generic conclusions in the GEIS or the applicability of the GEIS to Diablo Canyon. In fact, as discussed above, the conclusions in the GEIS regarding spent fuel pool issues have previously been the subject of (denied) rulemaking petitions.

Furthermore, as also discussed above, a fair review of the GEIS, the draft revised GEIS, and NUREG-1738 demonstrates that the allegedly “new” information cited by SLOMFP does not in fact call into question the validity of the GEIS conclusions.¹⁵ The conclusions in the GEIS and draft revised GEIS apply to all plants — without exception. Those conclusions are based on the robust design of spent fuel pools, on mitigation measures required to be in place, and on a series of studies evaluating spent fuel pool risks. NUREG-1738, which the Commission has declared to be excessively conservative, is only one of many studies addressing spent fuel pool risks. And, as also noted above, studies performed subsequent to NUREG-1738 (*e.g.*, the Sandia studies) indicate that the risk of a zirconium fire is less than reported in NUREG–1738. Given the stringent design criteria for spent fuel pools, the physical security measures, and spent fuel pool accident mitigation measures, and based upon NRC site evaluations of every spent fuel pool in the United States, the NRC determined in 2008 that its

¹⁵ The Board did not address this issue in its decision noting instead that “[w]hether or not the asserted effect upon the validity and applicability of the 1996 GEIS to Diablo Canyon of this ‘new information’ is ‘disproved’ is a matter for the Commission to weigh in examining the merits of the waiver petition.” LBP-10-15 at 42 n.54.

findings in NUREG–1437 and in Table B–1 remain valid for spent fuel pool accidents. *See* 73 Fed. Reg. at 46206. The NRC reiterated this conclusion in the draft revised GEIS.

Because the generic findings of the GEIS are valid for Diablo Canyon, application of Table B-1 will serve the purposes for which the rule was adopted: eliminating duplicative reviews of spent fuel storage issues in a site-specific licensing proceeding. Accordingly, the Waiver Request fails to satisfy the first criterion.

2. *There are no special circumstances present that were not considered in the GEIS rulemaking.*

SLOMFP has also failed to demonstrate “special circumstances” that would warrant a waiver from the NRC’s regulations. In arguing that there are “special circumstances,” SLOMFP asserts that the risk evaluation in NUREG-1738 “does not apply to Diablo Canyon” because NUREG-1738 does not address “spent fuel pool accidents outside the eastern and central United States.” Pet at 17. On this basis, SLOMFP asserts that the conclusion in the draft GEIS that zirconium fire initiation is less than reported in NUREG-1738 “has no meaningful application to Diablo Canyon.” *Id.* This, however, ignores the reasoning and actual conclusions in both the GEIS and the draft GEIS.

First, the specific concern that proposed Contention EC-2 identifies (*i.e.*, risks of a spent fuel pool zirconium fire caused by an earthquake) was explicitly considered in the GEIS. Pet. at 17-18. There, the Commission concluded that “even under the worst probable cause of a loss of spent-fuel pool coolant (a severe seismic-generated accident causing a catastrophic failure of the pool), the likelihood of a fuel-cladding fire is highly remote.” GEIS at 6-72, 6-75, *citing* 55 Fed. Reg. 38474 (Sept. 18, 1990). Thus, on its face, the GEIS explicitly considers the circumstances that provide the purported basis for the Waiver Request.

Second, the GEIS is based on a bounding analysis that encompasses all plants. For example, in NUREG-1353 the NRC used a “bounding” approach — the environmental impacts of spent fuel pool accidents are bounded by reactor accidents at full power — to characterize the environmental impacts of spent fuel pool accidents in the GEIS. In the draft GEIS, the NRC uses the same approach to conclude that “the environmental impacts from accidents at spent fuel pools (SFPs) (as quantified in NUREG-1738) can be comparable to those from reactor accidents at full power.” Draft Revised GEIS at 4-156. The NRC’s bounding analysis, which considers a number of risks (not just seismic risk), makes no exceptions or exclusions. SLOMFP has provided no information to suggest that this bounding is inadequate for Diablo Canyon.

Third, by focusing exclusively on NUREG-1738, SLOMFP ignores the myriad of studies — both before and after NUREG-1738 — that conclude that the risk of a spent fuel pool accident is very low. As noted above, the GEIS conclusions were based, in part, on NUREG-1353, NUREG/CR-5281, NUREG/CR-5176, NUREG/CR-4982, and NUREG-75/014. The Sandia studies, which considered more realistic scenarios than NUREG-1738, reaffirmed the GEIS conclusions. More recently, the Commission rejected a petition for rulemaking based on NUREG-1738 that would have afforded the same relief that SLOMFP is requesting here.¹⁶ The Commission’s consistent position on spent fuel pool risks is contrary to SLOMFP’s assertions that “the new risk analyses and mitigative measures relied on for the NRC’s generic conclusion regarding spent fuel storage risks cannot be applied to DCNPP.” *See* Curran Decl. ¶6. Even if

¹⁶ SLOMFP has not provided anything new or different than what was previously considered, and rejected, by the NRC and the Second Circuit. The petition for rulemaking was filed by the State of California and specifically addressed NUREG-1738. There is no reason for the Commission to now provide the relief that the Commission previously declined in a decision that the agency successfully defended.

the conclusions in NUREG-1738 cannot be applied to Diablo Canyon, the other studies relied upon by the Commission provide an alternate, independent basis for the GEIS conclusions.

Fourth, because NUREG-1738 focuses on decommissioned plants, NUREG-1738 does not take into account the various mitigation measures that are in place at operating plants (e.g., operator responses, make-up cooling). These measures were an important basis for the Commission's denial of the petition for rulemaking, as they highlighted the significant conservatisms contained in NUREG-1738. The Commission explained that those measures, if taken into account, would "substantially reduce the likelihood of a zirconium fire, potentially rendering the frequency estimate to be remote and speculative." 73 Fed. Reg. at 46209. SLOMFP has not considered these mitigation measures in its Waiver Request or shown why Diablo Canyon is different from any other operating plant.

Finally, to the extent that SLOMFP is relying on NUREG-1738 to provide "new" information relative to spent fuel pool risks, the study actually says nothing about the seismic setting or the seismic design basis at Diablo Canyon. There is no "new" information in NUREG-1738 related to Diablo Canyon. NUREG-1738 is, in fact, silent with respect to Diablo Canyon. At most, NUREG-1738 is *neutral* with respect to the issues raised by SLOMFP. SLOMFP therefore overreaches when it says that the NUREG-1738 refutes the applicability of the conclusions in the GEIS to Diablo Canyon.

At bottom and contrary to SLOMFP's assertions (Pet. at 17), nothing in NUREG-1738 prevents the NRC from concluding, as it did in the GEIS — and, again more recently, in denying the petitions for rulemaking and in the draft revised GEIS — that the impacts of spent fuel storage are small for all plants, including Diablo Canyon. The Waiver Request has not identified any special circumstances that were not considered in the GEIS.

3. *The spent fuel pool at Diablo Canyon is not unique.*

With respect to the third criterion, SLOMFP has not demonstrated that any aspect of spent fuel storage is unique to Diablo Canyon or to license renewal. SLOMFP's claims to uniqueness include references to California being the highest-earning agricultural state and the location of Diablo Canyon relative to fertile farmland. Curran Decl. ¶8. Yet, many plants are located in agricultural areas, near large populations, or adjacent to important fisheries or industries. These abstract factors do not establish that Diablo Canyon is unique or outside the bounds of the GEIS conclusions.

The Board found that SLOMFP met the third criterion by asserting — based solely on references to NUREG-1738 — that Diablo Canyon is no longer covered by the NRC's generic analysis of seismic risk in the GEIS. LBP-10-15 at 43. As an initial matter, SLOMFP cannot rely solely on NUREG-1738 to show that Diablo Canyon's spent fuel pool is unique. According to Merriam-Webster, "unique" means "being the only one" or "being without a like or equal." NUREG-1738 states that at least four plants (Diablo Canyon, San Onofre, Columbia, and Robinson) would need to demonstrate compliance with the PPG to justify an exemption or relaxation of post-shutdown Emergency Planning requirements. Thus, Diablo Canyon is not "unique" with respect to the concern underlying the Waiver Request.

Moreover, every plant is, to some degree, located in a distinctive (*i.e.*, site specific) seismic setting. From a regulatory perspective, all spent fuel pools must meet the minimum design criteria — irrespective of local seismology. SLOMFP does not acknowledge that, as with all spent fuel pools, the NRC has reviewed the design bases for the spent fuel pools at Diablo Canyon and found the design bases to be adequate to protect public health and safety. *See* 52 Fed. Reg. at 38978 (concluding that the Diablo Canyon spent fuel pool would not have a significant impact on the environment). As noted above, the seismic hazard at Diablo Canyon

may be greater than at other sites, but the seismic design basis is accordingly more robust. As a result, the seismic *risk* at Diablo Canyon is comparable to that at other plants. SLOMFP has pointed to nothing unique about the spent fuel pool at Diablo Canyon that would differentiate it from spent fuels pools at other operating plants.¹⁷

Finally, SLOMFP has not pointed to any unique spent fuel pool storage issue within the scope of license renewal. The Commission stressed in the license renewal rulemaking that litigated issues must be “unique to the license renewal” period:

[T]he final rule amends § 2.758 [now § 2.335] to make clear that challenges to the ... rule could be made in the formal hearing so that certain other issues claimed to be necessary to ensure adequate protection *only during the renewal term* could be admitted in a formal hearing. . . . *Issues that have relevance during the term of operation under the existing operating license as well as license renewal would not be admissible under the new provision of § 2.758 [now § 2.335] because there is no unique relevance of the issue to the renewal term.*

56 Fed. Reg. 64943, 64961-62 (Dec. 13, 1991) (emphases added). In the absence of an underlying issue unique to license renewal, the Waiver Request is gratuitous.

For all of these reasons, the Waiver Request is not based on an issue that is unique to Diablo Canyon.

4. *A waiver is not necessary to reach a significant safety or environmental problem.*

SLOMFP’s Waiver Request also fails to satisfy the fourth criterion. A waiver is not necessary here to reach a “significant safety problem.” SLOMFP has not pointed to any age-related safety issue associated with the spent fuel pool. As discussed above, the NRC has

¹⁷ The Court of Appeals for the DC Circuit previously addressed the issue of whether a generic rulemaking was appropriate for seismic-related issues at Diablo Canyon and San Onofre. *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1309 (D.C. Cir. 1984), *aff’d on reh’g*, 789 F.2d 26 (D.C. Cir.) (en banc), *cert. denied*, 479 U.S. 923 (1986). The Court reasoned that “[b]ecause seismology remains a difficult and inexact science” it could not conclude that the earthquake risk is “unique” to Diablo Canyon and San Onofre such that generic resolution was inappropriate. *Id.*

previously considered the risks of spent fuel storage at Diablo Canyon, including the risks from severe accidents, in connection with a license amendment to expand the spent fuel pool storage capacity at Diablo Canyon. In the absence of an issue related to aging or another issue within the scope of license renewal, there is no need to re-litigate the adequacy of the Diablo Canyon spent fuel pool seismic design in this proceeding.

Likewise, a waiver is not necessary to reach a significant environmental (or NEPA) issue. The NRC previously concluded that there were no significant radiological or non-radiological impacts associated with the spent fuel pool at Diablo Canyon and that the spent fuel pool would not have a significant impact on the environment. 52 Fed. Reg. at 38978. And, as discussed above, the NRC has looked at spent fuel pool storage repeatedly and in a comprehensive manner for all plants. The GEIS (and the draft revised GEIS) reaches a generic conclusion applicable to all spent fuel pools — without exception. Moreover, even if there was some new and significant information, it would not require that an issue be litigated in an adjudicatory proceeding. As noted above, parties with evidence that a generic finding is incorrect for all plants may petition the Commission to initiate a fresh rulemaking or use the SEIS notice-and-comment process to ask the NRC to forgo use of the suspect generic finding. *See, e.g., Turkey Point, CLI-01-17, 54 NRC at 12.* Thus, the existence of “new and significant information” does not automatically require a waiver in order to comply with NEPA.

Because SLOMFP’s Waiver Request does not satisfy any of the four threshold standards for a waiver, SLOMFP’s spent fuel storage concerns do not qualify for a waiver or exemption under Commission rules. And, even if the Commission finds that one (or more) factors have been met, the waiver cannot be granted unless *all four* factors are satisfied.

Millstone, CLI-05-24, 62 NRC at 560. Accordingly, the Waiver Request should be denied and proposed Contention EC-2 must be rejected.¹⁸

IV. CONCLUSION

For the above reasons, the Commission should deny SLOMFP's request for a waiver of NRC regulations and reject proposed Contention EC-2.

Respectfully submitted,

/s/ signed electronically by
David A. Repka
Tyson R. Smith
Winston & Strawn LLP
1700 K Street, NW
Washington, DC 20006

Jennifer Post
Pacific Gas and Electric Company
77 Beale St., B30A
San Francisco, CA 94105

COUNSEL FOR THE PACIFIC GAS
AND ELECTRIC COMPANY

Dated at Washington, District of Columbia
this 24th day of September 2010

¹⁸ Even if a waiver is granted, SLOMFP has failed to provide a basis for an admissible contention. *See* "Applicant's Brief in Support of Appeal from LBP-10-15," dated August 16, 2010, at 20-27. SLOMFP presented no information to challenge the conclusion in the GEIS (incorporated into the ER) that a severe seismically generated accident causing a catastrophic failure of the pool is remote and therefore need not be considered further. *See* GEIS at 6-72, 6-75. SLOMFP also did not dispute the findings of the GEIS (incorporated into the ER) that the environmental impacts of spent fuel storage are small. *Id.* at 6-86. SLOMFP simply failed to offer any expert or documentary support to contradict the conclusions in the GEIS and the ER. *See also* "NRC Staff's Answer to Applicant's Appeal of [ASLB] Decision (LBP-10-15)," dated August 26, 2010, at 8-15.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:)
)
PACIFIC GAS AND ELECTRIC) Docket No. 50-275-LR
COMPANY) Docket No. 50-323-LR
)
(Diablo Canyon Power Plant, Units 1 and 2))

CERTIFICATE OF SERVICE

I hereby certify that copies of “APPLICANT’S BRIEF IN OPPOSITION TO A WAIVER FOR CONTENTION EC-2” in the captioned proceeding have been served via the Electronic Information Exchange (“EIE”) this 24th day of September 2010, which to the best of my knowledge resulted in transmittal of the foregoing to those on the EIE Service List for the captioned proceeding.

Office of Commission Appellate
Adjudication
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
E-mail: ocaamail@nrc.gov

U.S. Nuclear Regulatory Commission
Office of the Secretary of the Commission
Mail Stop O-16C1
Washington, DC 20555-0001
Hearing Docket
E-mail: hearingdocket@nrc.gov

Atomic Safety and Licensing Board Panel
Mail Stop - T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

U.S. Nuclear Regulatory Commission
Office of the General Counsel
Mail Stop O-15D21
Washington, DC 20555-0001

Alex S. Karlin, Chair
Nicholas G. Trikouros
Paul B. Abramson

Susan Uttal, Esq.
Lloyd Subin, Esq.
Maxwell Smith, Esq.
Catherine Kanatas, Esq.

E-mail: Alex.Karlin@nrc.gov
E-mail: Nicholas.Trikouros@nrc.gov
E-mail: Paul.Abramson@nrc.gov

E-mail: Susan.Uttal@nrc.gov
E-mail: Lloyd.Subin@nrc.gov
E-mail: Maxwell.Smith@nrc.gov
E-mail: catherine.kanatas@nrc.gov
OGC Mail Center : OGCMailCenter@nrc.gov

