

June 30, 2006

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED  
USNRC

June 30, 2006 (11:32am)

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In the Matter of )  
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Entergy Nuclear Operations, Inc. )  
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(Vermont Yankee Nuclear Power Station) )  
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Docket No. 50-271-LR

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

**MASSACHUSETT'S ATTORNEY GENERAL'S REPLY TO ENTERGY'S  
AND NRC STAFF'S RESPONSES TO HEARING REQUEST  
AND PETITION TO INTERVENE WITH RESPECT TO  
VERMONT YANKEE LICENSE RENEWAL PROCEEDING**

**I. INTRODUCTION**

On May 26, 2006, the Attorney General of Massachusetts ("Attorney General") submitted to the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") a hearing request, petition to intervene, and backfit petition with respect to the license renewal proceeding for the Vermont Yankee nuclear power plant.<sup>1</sup> The Hearing Request included a contention challenging Entergy Nuclear Operation Inc.'s ("Entergy's") failure to address the environmental impacts of severe accidents in the Vermont Yankee spent fuel pool, including accidents caused by human error, equipment failure, natural forces, and intentional attacks.

While neither Entergy nor the NRC Staff opposes the Attorney General's standing to bring this case, they both oppose the admission of the Attorney General's contention on the ground that the contention fails to present new and significant information that

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<sup>1</sup> Massachusetts Attorney General's Request for a Hearing and Petition to Intervene With Respect to Entergy Nuclear Operations Inc.'s Application for Renewal of

should be considered under the National Environmental Policy Act ("NEPA"). They also claim that the Attorney General should have raised his concerns to the Commission in a waiver request or rulemaking petition. Finally, Entergy and the NRC Staff oppose the granting of the Attorney General's backfit petition.<sup>2</sup>

As discussed below, the Attorney General's contention meets the NRC's admissibility standard and raises an important environmental issue that Entergy and the NRC are required to address as a condition of re-licensing. Entergy's and the NRC Staff's argument that the Attorney General has failed to show the existence of new and significant information is without merit. Their central claim, that the NRC already has considered the information offered by the Attorney General regarding the potential for a pool fire in its previous environmental impact statements ("EISs"), is not supported by the record. Moreover, their substantive criticisms of the expert reports of Dr. Gordon Thompson<sup>3</sup> and Dr. Jan Beyea<sup>4</sup> show that in fact the Attorney General has raised a genuine and material dispute with Entergy regarding the foreseeability of spent fuel pool accidents. Therefore, under 10 C.F.R. § 2.309(f)(2), the contention must be admitted.

Moreover, Entergy and the NRC Staff fail to demonstrate that the Attorney General has raised his concerns about the inadequacy of Entergy's environmental

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the Vermont Yankee Nuclear Plant Operating License, etc. (May 26, 2006) ("Vermont Yankee Hearing Request").

<sup>2</sup> Entergy's Answer to Massachusetts Attorney General's Request for a Hearing, Petition to Intervene, and Petition for Backfit Order (June 22, 2006) ("Entergy Answer"); NRC Staff's Answer Opposing Massachusetts Attorney General's Request for Hearing and Petition to Intervene and Petition for Backfit (June 22, 2006) ("NRC Staff Answer").

<sup>3</sup> Gordon Thompson, Risks and Risk-Reducing Options Associated with Pool Storage of Spent Nuclear Fuel at the Pilgrim and Vermont Yankee Nuclear Power Plants, § 2 (May 25, 2006) ("Thompson Report").

analysis in the wrong forum. In order to be heard on the adequacy of the NEPA review for this license renewal proceeding, the Attorney General was clearly required by NRC regulations to submit a contention challenging the failure of Entergy's environmental report ("ER") to consider significant new information regarding the environmental impacts of a pool fire.

Entergy and the Staff argue that the Atomic Safety and Licensing Board ("ASLB") should not apply the recent decision by the Ninth Circuit of the U.S. Court of Appeals in *San Luis Obispo Mothers for Peace v. NRC*, No. 03-74628 (June 2, 2006) ("*Mothers for Peace*"). The Attorney General believes that the *Mothers for Peace* decision is an important precedent that should be applied in this case by requiring the NRC to consider the environmental impacts of intentional attacks on the Vermont Yankee pool in an EIS. The Attorney General also believes that the question of the applicability of *Mothers for Peace* is one that ultimately must be resolved by the Commission. Therefore, the Attorney General requests the ASLB to admit this aspect of the Attorney General's contention and refer its ruling to the Commission.

Finally, Entergy's and the NRC Staff's arguments in opposition to the backfit petition are before the wrong tribunal; only the hearing request was referred to the ASLB. The backfit petition remains before the Commission, and any arguments opposing the granting of the backfit petition should be addressed to that tribunal.

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<sup>4</sup> Jan Beyea, Report to the Massachusetts Attorney General on the Potential Consequences of a Spent-fuel Pool Fire at the Pilgrim or Vermont Yankee Nuclear Plant (May 25, 2006) ("Beyea Report").

## **II. THE ATTORNEY GENERAL'S CONTENTION IS ADMISSIBLE.**

### **A. The Attorney General Complied with NEPA and NRC Regulations By Raising His Concerns About the Environmental Impacts of Severe Pool Accidents in a Contention.**

Entergy and the NRC Staff argue that the Attorney General's contention is inadmissible because environmental impacts of spent fuel storage constitute "Category 1" impacts that are beyond the scope of this proceeding by virtue of Table B-1 of Part 51 and 10 C.F.R. §§ 51.53(c) and 51.95(c). Entergy Answer at 11-13. *See also* NRC Staff Answer at 8. According to Entergy and the NRC Staff, NRC regulations preclude the Attorney General from challenging, in this license renewal proceeding, the NRC's 1996 finding that the likelihood of a fuel cladding fire is "highly remote." Entergy Answer at 12, quoting NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants at 6-72 – 7-75 (1996) ("License Renewal GEIS") and citing *Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4)*, CLI-01-17, 54 NRC 3, 12 (2001); SECY-93-032, 10 C.F.R. Part 51 Rulemaking on Environmental Review for Renewal of Nuclear Power Plant Operating Licenses at 4 (February 9, 1993). *See also* NRC Staff Answer at 8-12.

Entergy's and the NRC Staff's argument is not consistent with the NRC's procedural regulations governing the admissibility of contentions to a proceeding, NRC regulations for implementation of NEPA, or Supreme Court precedent with respect to the consideration of new information in NEPA reviews. This regulatory and statutory scheme requires Entergy to identify any new and significant information of which it is aware regarding the environmental impacts of license renewal, including Category 1 issues; it also allows the Attorney General to challenge Entergy's failure to do so.

**1. NRC regulations require the Attorney General to submit a contention challenging Entergy's environmental report.**

In order to raise NEPA environmental issues in this license renewal adjudication, NRC regulations require a petitioner to submit contentions establishing “genuine” and “material” disputes with the applicants regarding the adequacy of its ER. 10 C.F.R. § 2.309(f)(2)(vi). *See also* Final Rule, Rules of Practice for Domestic Licensing Proceeding – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (August 11, 1989) (“1989 Final Procedural Rule”) (“The rule makes clear that to the extent an environmental issue is raised in the applicant’s ER, an intervenor must file contentions on that document.”)<sup>5</sup> An intervenor may not skip this threshold pleading requirement and wait for an EIS to be issued by the NRC Staff. *Id.* Here, the Attorney General properly raised the “environmental issue” of whether Entergy’s ER complies with 10 C.F.R. § 51.53(c)(3)(iv) by taking into account “new and significant information” regarding the environmental impacts of pool fires.

**2. 10 C.F.R. § 51.53(c)(3)(iv) requires Entergy to discuss significant new information regarding severe pool accidents in its ER for Vermont Yankee license renewal.**

Both a plain reading and the regulatory and statutory context of 10 C.F.R. § 51.53(c)(3)(iv) show that § 51.53(c)(3)(iv) requires Entergy to discuss new and significant information relating to Category 1 impacts in its ER. First, the plain language of 10 C.F.R. § 51.53(c)(3)(iv) requires an applicant to address “any” new information of

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<sup>5</sup> When it was originally promulgated in 1989, the regulation governing admission of NEPA contentions was codified as 10 C.F.R. § 2.714(b)(2)(iii). In 2004, the same regulation was re-codified as 10 C.F.R. § 2.309(f)(2). Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2,218, 2,240 (January 14, 2004).

which it is aware.<sup>6</sup> The NRC's use of the word "any" plainly shows that it did not intend to limit the scope of the required discussion of significant new information to information that relates only to Category 2 and 3 impacts. *Wrangler Laboratories, et. al.*, ALAB-951, 33 NRC 505, 513-14 (1991) ("*Wrangler*"), quoting *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-900, 28 NRC 275, 288 (1988) ("*Long Island Lighting*") ("As is the case with statutory construction, interpretation of any regulation must begin with the language and structure of the provision itself.")

Second, the regulatory history of § 51.53(c)(3)(iv) confirms that the Commission intended the scope of the regulation to include Category 1 impacts. *Wrangler*, 33 NRC at 513-14 ("[A]dministrative history and other available guidance may be consulted for background information and the resolution of ambiguities"). In the proposed rule, the NRC had required applicants to address new information only with respect to Category 2 and 3 issues. Proposed 10 C.F.R. § 51.35(c)(4) would have provided that:

The supplemental [environmental] report must contain an analysis of whether the assessment required by paragraphs (c)(3)(ii)-(iii) of this section changes the findings documented in Table B-1 of appendix B of subpart A of this part that the renewal of any operating license for up to 20 years will have accrued benefits that outweigh the economic, environmental, and social costs of license renewal.

Proposed Rule, Environmental Review for Renewal of Operating Licenses, 56 Fed. Reg. 47,016, 47,028 (September 17, 1991). The assessment required by proposed paragraph (c)(3)(ii) related to Category 2 impacts, and the assessment required by proposed paragraph (c)(3)(iii) related to Category 3 impacts. *Id.*

In the Final Rule, the Commission changed the numbering of the provision to 10

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<sup>6</sup> Notably, Entergy does not contest that it is aware of the information presented in the Attorney General's contention.

C.F.R. § 51.53(c)(3)(iv) and broadened its language to require consideration of “any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware.” 61 Fed. Reg. 28,467, 28,488 (June 5, 1996) (“Final Rule for Environmental Review”). The changed provision also eliminated the previous cross-reference to Category 2 and 3 impacts. *Id.*

The intent of this change is discussed in the preamble to the Final Rule. One of the comments on the proposed rule had included the criticism that: “the rigidity of the proposed rule hampers the NRC’s ability to respond to new information or to different environmental issues not listed in the proposed rule.” 61 Fed. Reg. at 28,470. The Commission responded that: “the framework for consideration of significant new information has been revised and expanded.” *Id.* Thus, the Commission explained that it was revising its regulations to require the NRC Staff to prepare a Supplemental EIS rather than an environmental assessment (“EA”) for license renewal, and to require that the Supplemental EIS take into account “new and significant information not considered in the GEIS analysis.” *Id.* The Commission also explained that although its regulations excused license applicants from addressing Category 1 impacts in the ERs, that exception only applied in the absence of “new and significant information” calling the Category 1 determination into question:

In this final rule, the regulatory requirements for performing a NEPA review for a license renewal application are similar to the NEPA review requirements for other major plant licensing actions. Consistent with the current NEPA practice for major plant licensing actions, this amendment to 10 CFR Part 51 requires the applicant to submit an environmental report that analyzes the environmental impacts associated with the proposed action, considers alternatives to the proposed action, and evaluates any alternatives for reducing adverse environmental effects. Additionally, the amendment requires the NRC staff to prepare a supplemental environmental impact statement for the proposed action,

issue the statement in draft for public comment, and issue a final statement after considering public comments on the draft.

The amendment deviates from NRC's current NEPA review practice in some areas. First, the amendment codifies certain environmental impacts associated with license renewal that were analyzed in NUREG-1437, "Generic Environmental Impact Statement for License Renewal at Nuclear Plants" (xxx 1996). Accordingly, absent new and significant information, the analyses for certain impacts codified by this rulemaking need only be incorporated by reference in an applicant's environmental report for license renewal and in the Commission's (including NRC staff, adjudicatory officers, and the Commission itself) draft and final SEIS and other environmental documents developed for the proceeding.

61 Fed. Reg. at 28,483 (emphasis added). This language clearly establishes that Category 1 impacts are included in the scope of new and significant impacts that must be discussed in an ER pursuant to 10 C.F.R. § 51.53(c)(3)(iv).<sup>7</sup>

Finally, the NRC Staff's interpretation of the regulations should be rejected because it is inconsistent with NEPA and the NRC's regulatory scheme for implementing that statute. *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), LBP-05-10, 61 NRC 241, 299 (2005), *rev'd on other grounds*, CLI-05-14, 61 NRC 359 (2005) (finding that a proposed interpretation of a regulation was inconsistent with both its plain meaning and the "broader context" of the regulatory scheme.) As discussed in *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989) ("*Marsh*"), NEPA is an "action-forcing" statute that requires federal agencies to continue to take a "hard look" at

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<sup>7</sup> In support of its position, Entergy cites a statement in a 1993 memorandum from the NRC Staff to the Commissioners in which the NRC Staff proposed to make a number of changes to the 1991 proposed rule, including the provision that "[l]itigation of environmental issues in a hearing will be limited to unbounded category 2 and category 3 issues unless the rule is suspended or waived." Entergy Answer at 14, quoting SECY-93-032, Memorandum to the Commissioners from James M. Taylor, Executive Director for Operations, re: 10 CFF Part 51 Rulemaking on Environmental Review for Renewal of Nuclear Power Plant Operating Licenses at 4 (February 9, 1993). But such a provision was never codified in the final rule, nor is it mentioned in the preamble to the final rule.



the effects of their proposed actions, even after they have been approved. 409 U.S. at 372-73. NRC's regulatory scheme assigns license applicants broad responsibility to conduct what amounts to a first draft of the NRC's NEPA analysis in its ERs. It would be inconsistent with NEPA for the NRC to excuse licensees from identifying an entire category of new and significant information bearing on the environmental impacts of a proposed nuclear operation, when licensees have a high level of access to that information and when the regulatory scheme places so much reliance on applicants to address environmental issues.

Accordingly, the plain language of 10 C.F.R. § 51.53(c)(3)(iv), its regulatory history, and the statutory framework of NEPA require Entergy to address new and significant information bearing on the environmental impacts of pool fires in its ER. Moreover, the Attorney General was entitled to challenge the adequacy of the ER's discussion of the issue.

**3. The alternative procedures suggested in *Turkey Point* are inconsistent with NEPA.**

Both Entergy and the NRC Staff cite the Commission's decision in *Turkey Point* for the proposition that the Attorney General should have filed a waiver petition with the Commission instead of filing a contention with the ASLB. Entergy Answer at 13, NRC Staff Answer at 11, citing 54 NRC at 12. Entergy also cites *Turkey Point* for the proposition that the Attorney General alternatively may file a rulemaking petition to gain NEPA consideration of the impacts of fuel pool accidents. Entergy Answer at 13.

In *Turkey Point*, the Commission affirmed the denial of a contention seeking consideration of fuel pool accidents, in part on the ground that spent fuel storage impacts constitute Category 1 impacts that are excused from consideration, and that the petitioner

had not filed a waiver petition pursuant to 10 C.F.R. § 2.335(b). 54 NRC at 21-23.

*Turkey Point* is inapposite to this case because it does not address the license renewal applicant's obligation to discuss new and significant information bearing on the impacts of license renewal in its ER. Moreover, the petitioner in the *Turkey Point* case was concerned about circumstances unique to the Turkey Point nuclear power plant, *i.e.*, the proximity of the plant to Cuba and its location in a hurricane corridor. Thus, the case involved the type of "special circumstances" that must be demonstrated in order to obtain a regulatory waiver under 10 C.F.R. § 2.335(b). In contrast, in this case the issues raised by the Attorney General's contention are not confined to the Vermont Yankee plant alone.<sup>8</sup>

In any event, the alternative procedural avenues suggested in *Turkey Point* for seeking consideration of significant new information, *i.e.*, a waiver petition or petition for rulemaking, are inconsistent with NEPA's requirement for supplementation of EISs as set forth by the Supreme Court in *Marsh*. As stated in *Marsh*, an agency must take new information into account if the information shows that a proposed action will affect the quality of the human environment "in a significant manner or to a significant extent not already considered." 490 U.S. at 374. If that particular test is satisfied, the EIS must be supplemented. The waiver regulation, in contrast, burdens the petitioner with the additional requirement to show "special circumstances" that are unique to the plant in

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<sup>8</sup> In fact, the Attorney General has filed a virtually identical contention with respect to another BWR, the Pilgrim plant. Massachusetts Attorney General's Request for a Hearing and Petition to Intervene With Respect to Entergy Nuclear Operations Inc.'s Application for Renewal of the Pilgrim Nuclear Power Plant Operating License, etc. (May 26, 2006).

question. 10 C.F.R. § 2.335(b). That test is irrelevant under *Marsh*, which is concerned only with the question of whether the information is “new” and “significant.”

In dicta, *Turkey Point* also suggests that a party who seeks consideration of significant new information in a license renewal NEPA review may submit a rulemaking petition. 54 NRC at 12. But a party who seeks to ensure that an individual licensing decision complies with NEPA should not have to gain reversal of an industry-wide regulation in order to meet that goal. As the Court recognized in *Marsh*:

... NEPA promotes its sweeping commitment to ‘prevent or eliminate damage to the environment and biosphere’ by focusing Government and public attention on the environmental effects of proposed agency action. 42 U.S.C. § 4231. By so focusing agency attention, NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct. See *Robertson v. Method Valley*, 490 U.S. 332, 349 (1989)].

490 U.S. at 372 (emphasis added). *Marsh* requires only that the Attorney General demonstrate the inadequacy of the NEPA review in this particular case. He should not be required to show, in addition, why the NRC should change a generic rule for all nuclear plants.<sup>9</sup>

Under NRC regulations for the admissibility of NEPA contentions, the Attorney General was required to raise his NEPA concerns about the Vermont Yankee license renewal review by raising a dispute with Entergy regarding Entergy’s satisfaction of

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<sup>9</sup> In *Turkey Point* the Commission also suggested that a party seeking consideration of significant new information in a NEPA review could “use the SEIS notice-and-comment process to ask the NRC to forgo use of the suspect generic finding and to suspend license renewal proceedings, pending a rulemaking or updating of the GEIS.” 54 NRC at 12. Filing comments on a draft SEIS provides no assurance that those comments will be taken into account. Moreover, it is not clear whether the NRC’s obligation to respond to such comments could be enforced in a federal court by an appellant who had not participated in a formal licensing or rulemaking proceeding. By itself, therefore, this procedural avenue would be of questionable use to a member of the public seeking to enforce NEPA.

NRC requirements for the consideration of significant new information. Moreover, filing a contention with the ASLB constitutes the only procedural avenue that protects the Attorney General's right to seek consideration of significant new information without imposing undue additional burdens. Therefore, his contention is properly before the ASLB.

**B. The Information Submitted By the Attorney General in Support of His Contention is New and Significant.**

In his contention, the Attorney General presented significant new information, not considered in any previous NRC EIS, which shows that the potential for a severe fire in Vermont Yankee's high-density fuel storage pool is significant and that the consequences of such a fire would be extreme. The significant new information regarding the potential for an accident consists of the expert report of Dr. Gordon Thompson, which is attached to the contention; NRC Staff report NUREG-1738; and a 2006 report by the National Academy of Sciences.<sup>10</sup> In several respects these studies undermine the conclusions of the NRC's previous EISs, including their conclusions that: (1) only fuel that has been recently discharged from the reactor will burn and (2) complete drainage of a fuel pool is a more severe case than partial drainage. *Id.* Significant new information regarding the severe consequences of pool fires is presented in the expert report of Dr. Jan Beyea, also attached to the contention.<sup>11</sup> Finally, various intentional attacks on prominent public facilities, culminating in the attacks of September 11, 2001, constitute significant new

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<sup>10</sup> Hearing Request at 30, citing NUREG-1738, *Final Technical Study of Spent Fuel Pool Accident Risk and Decommissioning Nuclear Power Plants* (January 2001); NAS Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, *Safety and Security of Commercial Spent Nuclear Fuel Storage* (The National Academies Press: 2006).

<sup>11</sup> Hearing Request at 30, citing Beyea Report at 21-24.

information demonstrating that intentional attacks on nuclear facilities like the Vermont Yankee plant are reasonably foreseeable and therefore should be addressed in an EIS.

Hearing Request at 12.

Entergy and the NRC Staff argue that the information submitted by the Attorney General is neither new nor significant. Entergy Answer at 14, NRC Staff Answer at 14. Their arguments have no merit.

**1. New and significant information in NUREG-1738 supports the Attorney General's contention.**

First, Entergy argues that NUREG-1738 fails to controvert the conclusion in the License Renewal GEIS that the potential for a spent fuel pool fire is "highly remote." Entergy Answer at 15, quoting License Renewal GEIS at 6-72 – 6-75. According to Entergy, NUREG-1738 actually supports the License Renewal GEIS because it "ultimately concludes" that the likelihood of a pool fire is "very low." Entergy Answer at 15, quoting NUREG-1738 at vii, x, 5-1 and 5-3.

In making this argument, Entergy overlooks the fact that, as is made clear in the title of the report and throughout the document, NUREG-1738's ultimate conclusion regarding the potential for a pool fire is based solely on the characteristics of decommissioning plants, not operating plants.<sup>12</sup> This is clear from the cover page of the document, and is stated throughout the report. The overall risk of a pool fire at a decommissioning plant simply is not comparable to the overall risk of a pool fire at an operating plant. As the NRC Staff explained in NUREG-1738, operating nuclear plants

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<sup>12</sup> The report is entitled "*Final Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants.*" NRC Staff prepared the study in response to an industry request to relax emergency planning standards for decommissioning reactors. *Id.* at 1-1.

are subject to a far greater array of potential accident sequences than decommissioning plants:

The staff found that the event sequences important to risk at decommissioning plants are limited to large earthquakes and cask drop events. For emergency planning (EP) assessments this is an important difference relative to operating plants where typically a large number of different sequences make significant contribution to risk.

NUREG-1738 at 5-2. Thus, the NRC Staff's ultimate conclusion regarding the overall potential for a severe spent fuel pool accident at a decommissioning nuclear power plant is inapplicable to this case.

Entergy also ignores the significance of the Staff's most important conclusions in NUREG-1738, *i.e.*, that partial drainage of a pool is a more severe condition than total, instantaneous drainage; and that even aged fuel may burn if it is uncovered. Thompson Report at page 12; Hearing Request at 31, citing NUREG-1738 at 2-1 – 2-2. Entergy fails to acknowledge that the NRC has never applied this fundamental change to its understanding of spent fuel pool behavior in an EIS on the potential for pool fires at operating nuclear reactors.

The NRC Staff tries unsuccessfully to minimize the significance of the new information reported in NUREG-1738, by implying that its findings have been well-known for a long time. According to the Staff asserts that its "understanding of the frequencies and consequences of SFP [spent fuel pool] fires has not changed substantially since the potential for SFP accidents was first explored in detail as part of Generic Issue 82." NRC Staff Answer at 15, citing NUREG-1353, Regulatory Analysis for the Resolution of Generic Issue 82, "Beyond Design-basis Accidents in Spent Fuel Pools" at 4-8 – 4-11 (April 1989) ("NUREG-1353"). But the Staff's assertion is contradicted by

statements made by the NRC Staff in a license amendment case for the Shearon Harris nuclear power plant, where Dr. Thompson testified as an expert witness in support of a contention seeking an EIS on the environmental impacts of pool fires. *In the Matter of Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), Docket No. 50-400-LA, ASLBP No. 99-762-02-LA. In opposing the admission of the intervenor's contention, the NRC Staff characterized NUREG-1353 as follows:

NUREG-1353 concluded that the probability of a zircaloy cladding fire resulting from the loss of water was estimated to have a mean frequency value of  $2 \times 10^{-6}$ . The risks and consequences of a spent fuel accident were found to meet the objectives of the Safety Goal Policy Statement. It also concluded that spent fuel three years out of the reactor could be air cooled, even in high density racks. *Id.* at I-1. The report further found that zircaloy fires would not propagate to PWR [pressurized water reactor] fuel stored in high density racks if the fuel had an approximate decay time of 730 days (2 years). *Id.* at 4-12.

NRC Staff Response to Intervenor's Request for Admission of Late-Filed Environmental Contentions at 20 (March 3, 2000) (emphasis added). The NRC Staff went on to assert that "it is not credible that an exothermic reaction would propagate or even occur" in the Harris fuel pools, because Harris planned to keep fuel aged more than five years in the pools. *Id.*<sup>13</sup>

The NRC Staff's representations in the *Harris* proceeding show that, contrary to the Staff's representation to this ASLB, the Staff's understanding of the potential for a pool fire has changed radically since NUREG-1353 was issued, and that NUREG-1353 did not take into account NUREG-1738's principal conclusion that a fire may not be

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<sup>13</sup> The Staff also criticized Dr. Thompson's view that partial uncovering of the spent fuel in the Harris pools could affect fuel aged ten or more years, asserting that his belief "does not appear to be based on the scientific literature" and that "Dr. Thompson's is the only opinion of which the Staff is aware that holds that fuel five years or more out of the reactor is susceptible to zircaloy/fire exothermic reaction." *Id.* at 21-22. NUREG-1738 now affirms that there is no basis for ruling out a fire in fuel of any age.

ruled out in fuel of any age. Moreover, to the extent that the Waste Confidence Decision relies on NUREG-1353, no inference can be drawn that the findings of NUREG-1738 were taken into account in the Waste Confidence Decision.

**2. The Waste Confidence rule did not address significant new information regarding the potential for pool fires.**

Entergy also argues that the Attorney General errs by claiming that the 1990 Waste Confidence Decision rulemaking ignored significant new information regarding the risks of pool fires. Entergy Answer at 15. In support of its argument, Entergy quotes the Waste Confidence Decision as follows:

[E]ven if the timing of a spent fuel pool failure were conducive to fire, a fire could occur only with a relatively sudden and substantial loss of coolant – a loss great enough to uncover all or most of the fuel, damaging enough to admit enough air to keep a large fire going, and sudden enough to deny operators the time to restore the pool to a safe condition. Such a severe loss of cooling water is likely to result only from an earthquake well beyond the conservatively estimated earthquake for which reactors are designed. Earthquakes of that magnitude are extremely rare.

The plant specific studies . . . found that, because of the large safety margins inherent in the design and construction of their spent fuel pools, even the more vulnerable older reactors could safely withstand earthquakes several times more severe than their design basis earthquake. Factoring in the annual probability of such beyond-design-basis earthquakes, . . . the average annual probability of a major spent fuel pool fuel pool failure at an operating reactor . . . was calculated at two chances in a million per year of reactor operation.

Entergy Answer at 15 and 12 n.4, quoting 55 Fed. Reg. 38,474, 38,481 (September 18, 1990) (emphasis supplied by Entergy) (citations omitted).

In fact, this quotation illustrates the Attorney General's point, by making clear that the Waste Confidence Decision examined only the potential for "a relatively sudden and substantial loss of coolant." *Id.* (emphasis added). Thus, the Decision failed to consider event sequences in which coolant is lost gradually or partially, through leakage,



displacement or boiling, and sequences in which the provision of cooling water or water makeup to the pool is precluded by factors such as a release of radioactive material from an adjacent reactor. Had the NRC examined event sequences of these types, it would have identified a range of events larger and more probable than an extremely severe earthquake. Thompson Report at 9.

Entergy also argues that in contending that NUREG-1738 presents significant new information regarding the inevitability of a fire in fuel of any age if the fuel in a pool is uncovered, the Attorney General misstates the conclusion of NUREG-1738. Entergy Answer at 15 n.9. According to Entergy, NUREG-1738 found only that the potential for a zirconium fire “cannot be precluded based solely on the decay time [*i.e.*, age] of the fuel.” *Id.* If it is impossible for the NRC to rule out a fire based on the age of the fuel, however, a fire must be assumed to occur in fuel of any age.

Entergy also claims that NUREG-1738 did not present new and significant information regarding the likelihood that spent fuel will burn if uncovered, because the NRC addressed that issue in the Waste Confidence Decision. Entergy Answer at 15 n. 9. According to Entergy, the Waste Confidence Decision used conditional probability assumptions of 1.0 for pressurized water reactor (“PWR”) fuel and .25 for boiling water reactor (“BWR”) fuel, “based on studies that determined significantly lower probabilities for zirconium oxidation for BWR spent fuel than for PWR spent fuel because of the significantly lower decay power for BWR spent fuels and differences in PWR and BWR spent fuel storage configurations.” Entergy Answer at 15 n.9, citing NUREG-1353.

Entergy’s argument ignores Dr. Thompson’s conclusion that NUREG-1353 is not conservative with respect to its assumptions about the characteristics of BWR storage

racks because it relies on an incorrect assumption regarding the density at which spent fuel is stored in BWR storage racks. Thompson Report at 17. As noted by Dr. Thompson, NUREG-1353 assumes the use of “directional storage racks” for BWR fuel, *i.e.*, racks that provide for 6-inch center-to-center storage with a “5.3 inch open space between rows.” Thompson Report at 17, NUREG-1353 at ES-2, 4-10. In contrast, modern BWR spent fuel storage racks have a 6-inch center-to-center distance between fuel assemblies in both directions. Thompson Report at 17. Clearly, the elimination of the 5-inch space between rows of fuel assemblies results in an increase in the density at which fuel is stored in the pool, thus increasing the potential heat level in the pool and a corresponding decrease in the effectiveness of heat transfer from the fuel assemblies if water is lost from the pool. Thus, as Dr. Thompson concludes, the Waste Confidence Decision underestimates the potential for ignition of BWR fuel. Thompson Report at 17.

Entergy also disputes the Attorney General’s assertion that the Waste Confidence Decision considered only an “instantaneous loss of water from the pool” rather than a partial loss of cooling water. Entergy Answer at 15 n.10, citing NUREG-1353 at 4-13 through 4-36. Entergy’s argument is based on an unsupported mischaracterization of NUREG-1353. Nowhere in the 23 pages of NUREG-1353’s text cited by Entergy can any assertion be found that NUREG-1353 considered partial drainage. At other points in the report, however, NUREG-1353 states quite clearly that the study is based on an assumption of total and instantaneous drainage of the pool. *See* NUREG-1353 at ES-2, 4-8.<sup>14</sup> Thus Entergy has failed to contradict the Attorney General’s assertion that the

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<sup>14</sup> For instance, NUREG-1353’s estimate that the conditional probability of a zircaloy cladding fire is 1.0 for PWRs and 0.25 for BWRs is based on the assumption of “a complete loss of water.” *Id.* at ES-2. The key assumptions of the computer code used

technical studies relied on in the Waste Confidence Decision did not consider partial drainage of spent fuel pools.

**3. NRC's actions in response to the NAS Study provide support for the Attorney General's contention.**

Entergy claims that a report to Congress by the NRC Commissioners shows that “the NRC has carefully evaluated the NAS Report, and has acted on the Report’s Findings and Recommendations as it deemed appropriate.” Entergy Answer at 16, citing U.S. Nuclear Regulatory Commission Report to Congress on the National Academy of Sciences Study on the Safety and Security of Commercial Spent Nuclear Fuel Storage” (Mar. 2005) (“Report to Congress”).<sup>15</sup>

Entergy’s description of the Report to Congress undercuts Entergy’s argument that the NAS study contains no significant new information that deserves consideration in the NRC’s decision-making process. It is clear from the report and correspondence described in note 12 of Entergy’s Answer that the NRC takes the NAS’ concerns about the potential for pool fires seriously, by apparently including new security measures related to spent fuel pools in an enforcement order. Thus, through its own actions the NRC has effectively acknowledged that new information regarding the risks of high-density pool storage of spent fuel was significant enough to warrant new enforcement

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for the study, SFUEL1W, include the assumption that “[t]he water drains instantaneously from the pool.” *Id.* at 4-8. Instantaneous drainage of the pool is also described as a “limitation” on the study. *Id.* Moreover, NUREG-1353 warns that this assumption “simplifies the heatup model” in the computer program, and “is not intended to be representative of any accident sequence other than perhaps the catastrophic failure of the spent fuel structure from a beyond design basis seismic event.” *Id.*

<sup>15</sup> Entergy also claims that the NAS Report “focused on terrorist attacks potentially causing a severe spent fuel accident.” As shown by the title of the report, *Safety and Security of Commercial Nuclear Fuel Storage*, however, the report’s subject

measures. Clearly, if the new information is significant enough to warrant enforcement measures, it is also significant enough to warrant discussion in an EIS.<sup>16</sup>

4. **The fact that the NRC disagrees with the Attorney General about reports by the NAS and Drs. Thompson and Beyea shows the parties have a genuine and material dispute warranting admission of the Attorney General's contention.**

Entergy claims it is “[m]ost relevant” to the admissibility of the Attorney General’s contention that after reviewing the NAS Study, the NRC re-affirmed its previous conclusion that “the likelihood of a zirconium fire capable of causing large releases of radiation into the environment to be extremely low.” Entergy Answer at 16, quoting Report to Congress at 21. The fact that the NRC disagrees with the Attorney General about the implications of the NAS study shows that the parties have a genuine and material dispute about the risks of pool fires, not that the Attorney General’s contention should be rejected.<sup>17</sup>

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includes safety as well as security. Section 3 of the report also provides a detailed discussion of safety issues with respect to pool storage of spent fuel.

<sup>16</sup> It is important to recognize that by issuing enforcement orders regarding spent fuel pools, the NRC has not achieved effective compliance with NEPA. As discussed in the Attorney General’s Hearing Request, NEPA’s requirements are independent of the Atomic Energy Act. Hearing Request at 5. *See also Limerick Ecology Action v. NRC*, 869 F.2d at 729-30.

<sup>17</sup> The NAS Study simply does not support the NRC’s conclusion that the likelihood of a pool fire is “extremely low.” It does not discredit NUREG-1738’s conclusions about the conditional probability of spent fuel pool accidents in any way. In fact, it discusses post-NUREG-1738 research by the NRC which confirms NUREG-1738’s significant conclusion that partial water loss is a more severe case than total water loss. *Id.* at 53. The NAS Study also raises the concern that “damage to the pool and high radiation fields” could make some mitigative measures difficult to take, thus raising the concern that in some cases it may not be possible to keep spent fuel pool accidents from progressing. *Id.* at 55. The NAS Study’s recommendations that the NRC undertake further studies to “more fully understand the vulnerabilities and consequences of loss-of-pool-coolant events” is another statement that conflicts with the NRC’s dismissal of spent fuel pool accidents as extremely low-probability events. The fact that the NRC’s conclusions in the Report to Congress are so inconsistent with the NAS Study shows the

Entergy also claims that the NRC has reviewed a paper written by Drs. Thompson, Beyea, and other scientists regarding the risks of pool fires, and found it to “suffer from excessive conservatisms, with the result that its recommendations do not have a sound technical basis.” Entergy Answer at 17, citing COMSECY-03-0019, Review of the Paper “Reducing the Hazards from Stored Spent Power-Reactor Fuel in the United States,” Robert Alvarez et. al., January 31, 2003 (To Be Published in Science and Global Security) (August 7, 2003) (“COMSECY-03-0019”). As with the NRC’s review of the NAS Study, the NRC’s comments on the paper by Drs. Thompson and Beyea shows a material dispute of fact, not grounds for rejecting the contention.

**5. Rejection of the Attorney General’s contention based on opinions expressed in the Report to Congress and COMSECY-03-0019 would subvert NEPA’s purpose of subjecting important environmental issues to rigorous review and public comment.**

As the Supreme Court recognized in *Robertson v. Method Valley*, 490 U.S. 346 (1989), NEPA has two fundamental purposes:

It ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.

490 U.S. at 349. In order to achieve these closely related purposes an agency’s conclusions about the environmental impacts of a proposed action must be circulated to the public in proposed form, so that the final decision “reflects not only the work of the [agency] itself, but also the critical views” of other state and federal agencies and civic groups. *Id.*

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existence of a genuine dispute regarding the risks of pool fires and supports the admission

Here, as the Attorney General's contention shows, a mounting body of studies by the NRC's own staff, other government agencies, and independent scientists shows that the NRC's understanding of the phenomenology of high-density pool storage of spent fuel, on which it has relied for decades for its environmental decisions, is incomplete and incorrect. As a result, the NRC has underestimated the adverse environmental consequences of high-density pool storage of spent fuel. The NRC has never addressed those studies in a draft EIS circulated to the public or to other federal and state agencies. Thus, it has never subjected its opinions of those studies to the "critical views" that ensure an agency has fully considered the environmental implications of its actions. *Robertson*, 490 U.S. at 349.<sup>18</sup>

If, as Entergy requests, the ASLB were to dismiss the Attorney General's contention based on the NRC's untested and unexamined opinions about the significant body of studies challenging its previous environmental analysis of the risk of severe pool accidents, NEPA's purpose of ensuring rigorous environmental analysis informed by public debate would be subverted, with the result that important environmental effects may be "overlooked or underestimated only to be discovered after the resources have been committed or the die is cast." *Robertson*, 490 U.S. at 349, citing *Weinberger v. Catholic Action of Hawaii/Peace Education Project*, 454 U.S. 139 (1981). The ASLB

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of the Attorney General's contention.

<sup>18</sup> As discussed in *Silva v. Lynn*, 482 F.2d 1282 (1<sup>st</sup> Cir. 1973), an EIS must be detailed and well-supported enough to "ensure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug." 482 F.2d at 1285. Moreover, "where comments from responsible experts or sister agencies disclose new or conflicting data or opinions that cause concern that the agency may not have fully evaluated the project and its alternatives, these comments may not simply be ignored. There must be good faith, reasoned analysis in response." *Id.*

should not consider the opinions expressed in the Report to Congress or COMSECY-03-0019 in judging the admissibility of the Attorney General's contention.

**6. The Attorney General has demonstrated that pool fires are reasonably foreseeable accidents.**

Entergy argues that for the array of accident events identified by Dr. Thompson as leading to a loss of pool water (*i.e.*, aircraft impact, earthquake, cask drop, fire, severe reactor accident), Dr. Thompson provides "no basis indicating that any of these scenarios is sufficiently probable to warrant consideration under NEPA." Entergy Answer at 18, citing Thompson Report at 18. Entergy is incorrect. As Dr. Thompson attests without any dispute by Entergy, these events "are similar to events that are now routinely considered in planning and policy decisions related to commercial nuclear reactors." Thompson Report at 9. The only difference is that these types of events are not considered in relation to pool accidents: while the NRC studied reactor accidents in depth in NUREG-1150, *Severe Accident Risks: An Assessment for Five U.S. Nuclear Power Plants* (1990), it has not conducted a comparable study of pool fires. *Id.* It is neither possible nor reasonable for the NRC to demand that Dr. Thompson perform a probabilistic risk assessment ("PRA") in order to estimate the probability of a severe pool fire at Vermont Yankee. In order to gain admission of the Attorney General's contention, Dr. Thompson need only make a "minimal showing" show that "material facts are in dispute, thereby demonstrating that an 'inquiry in depth is appropriate.'" 1989 Final Procedural Rule, 54 NRC at 33,171, quoting *Connecticut Bankers Association v. Board of Governors*, 627 F.2d 245, 251 (D.C. Cir. 1980). Dr. Thompson has more than met this

test, by demonstrating that accident precursors to pool fires are similar to accidents that are already considered by NRC in its regulatory decision-making process.<sup>19</sup>

Entergy also asserts that the Attorney General's contention is deficient because it fails to take account of "precautions" taken at Vermont Yankee to minimize the potential for a cask drop accident or an earthquake. Entergy Answer at 19. The precautions to which Entergy refers are measures required by NRC safety regulations to provide against design-basis accidents. As discussed in the Attorney General's contention at page 6-7, these design measures do not address the less frequent but more severe accidents known as severe accidents, which include severe reactor accidents and severe pool accidents. The fact that the Vermont Yankee plant is designed against design-basis accidents does not necessarily ensure that it is also protected against severe accidents. *Id. See also Limerick Ecology Action v. NRC*, 869 F.2d 719, 729-30 (3<sup>rd</sup> Cir. 1989).<sup>20</sup>

Moreover, the NRC has never conducted a thorough PRA which assesses the potential for a range of fuel pool accidents, including both design-basis and severe accidents. Thompson Report at 18-19. Such a PRA would take into account design

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<sup>19</sup> For example, Entergy's footnote 14 illustrates the fact that aircraft crashes constitute the type of accidents that are routinely considered in NRC licensing decisions. Such an accident precursor may only be ruled out of an environmental analysis if the licensee demonstrates, as claimed here by Entergy, that the likelihood of an aircraft crash into the plant is "less than 1 E-7."

<sup>20</sup> Similarly, Entergy's assertion that its fuel pool is designed against design-basis earthquakes begs the question of how the pool would be affected by a severe earthquake. Entergy Answer at 19.

Entergy also states that in the Waste Confidence Decision the Commission found that "because of the large safety margins in the design and construction of their spent fuel pools, spent fuel pools could safely withstand earthquakes 'several times more severe' than the plant's design basis earthquake." Entergy Answer at 20 n.13, quoting Waste Confidence Decision, 55 Fed. Reg. at 35,481. But neither the Waste Confidence



measures and their effectiveness in mitigating or preventing the effects of accidents, and it would also take into account severe accidents for which design measures are ineffective.

Entergy also challenges the reactor accident scenario described by Dr. Thompson for the purpose of illustrating the credibility of events leading to a pool fire. According to Entergy, the scenario assumes that the conditional probability of a spent fuel pool fire is 50 percent, without giving any “real basis” for this “speculation.” Entergy Answer at 20. Entergy asserts that “nowhere” in the Shearon Harris licensing proceeding discussed in Dr. Thompson’s report “did the NRC Staff, CP&L, nor the licensing board itself, conclude that the conditional probability of a spent fuel pool fire was 50% given a severe accident causing the release of radioactivity from the reactor.” Entergy Answer at 22.

In fact, as demonstrated in Dr. Thompson’s report, all parties assumed that the conditional probability of a pool fire in spent fuel pools C and D at the Harris plant would be one (*i.e.*, 100%) if water were lost from pools A and B. At the Harris plant, pools A, B, C, and D are located in the same building. Thompson Report at 21. Thus Dr. Thompson’s assumption of a 50% conditional probability in the Vermont Yankee context is reasonable and not necessarily conservative.

Dr. Thompson’s characterization of the Harris proceeding is well-documented. As he discusses in his report:

Most importantly for present purposes, the technical submissions of all three parties agreed that the onset of a pool fire in two of the pools in the Harris pool building would preclude the provision of cooling and water makeup to the other

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Decision nor Entergy addresses the question of what is the likelihood of a severe earthquake strong enough to cause the pool to leak.

two pools. This effect would arise from the spread of hot gases and radioactive material throughout the pool building, which would preclude access by operating personnel. Thus, the pools not involved in the initial fire would boil and dry out, and their fuel would burn.

*Id.*<sup>21</sup> In this connection, the NRC Staff's witness, Gareth Parry, stated that:

The consequences of the loss of most or all pool water is most likely an exothermic reaction of the fuel in the pools if the fuel is not so old that the decay heat can be removed by air cooling. Precisely how old the fuel has to be to prevent a fire is still not resolved. Therefore, rather than estimate the probability of an exothermic reaction in pools C and D (event 7 in the seven step sequence), it is assumed conservatively that the probability is 1, given that the sequence has progressed to the point that the water in the pools has been lost through evaporation. However, there will be fuel in pools A and B that is less than five years old and loss of water in pools A and B would almost certainly result in an exothermic reaction. At that point, it is not likely that cooling could be restored to pools C and D. Thus the time available to effectively recover the pool cooling and/or makeup function is conservatively assumed to be the time taken to uncover the fuel in pools A and B.

Affidavit of Gareth W. Parry, Stephen F. LaVie, Robert L. Palla, and Christopher Gratton in Support of NRC Staff Brief and Summary Etc., par. 29 (November 17, 2000).

Similarly, Carolina Power and Light's expert report stated that:

SFPs [spent fuel pools] C and D are the focus of the evaluation. However, SFPs A and B may lose water inventory prior to SFPs C and D under certain postulated severe accidents. The consequences of loss of water inventory in pools A and B could in turn adversely impact both access and further prevention actions related to pools C and D. Therefore, the success criteria have been structured to require cooling or makeup to all 4 pools. From the standpoint of the Postulated Sequence, this assumption regarding success criteria introduces some slight conservatism.

ERIN Report – "Technical Input for use in the Matter of Shearon Harris Spent Fuel Pool Before the Atomic Safety and Licensing Board" at 2-36. The ERIN Report is attached as Exhibit C to Affidavit of Edward T. Burns (November 15, 2000). The testimony by the NRC Staff's and CP&L's witnesses were consistent with Dr. Thompson's testimony that:

... the initiation of exothermic oxidation reactions in pools A and B would liberate radioactive material from those pools, and thereby supplement the radioactive contamination of the site that arose from the TI-SGTR release. In this manner, cooling and makeup to pools C and D could be precluded for a much longer time period. . . .

Thompson, *The Potential for a Large Atmospheric Release of Radioactive Material from Spent Fuel Pools at the Harris Nuclear Power Plant: the Case of a Pool Release Initiated by a Severe Reactor Accident* at 40 (November 20, 2000), attached to Declaration of Gordon Thompson (November 20, 2000).

Thus, contrary to Entergy's argument, Dr. Thompson provided technical support for his assumption that the conditional probability of a spent fuel pool fire is 50 percent. Moreover, Entergy's and the NRC Staff's arguments that the Licensing Board's decision in the *Harris* case can be relied on to deny the admissibility of the Attorney General's contention ignore the fact that the design of the Harris plant, a pressurized water reactor ("PWR"), is substantially different than the Vermont Yankee design, and that therefore the accident scenario litigated there cannot be applied across the board to this case. *See* Hearing Request at 24 n.9.

**C. The ASLB Should Rule That NEPA Requires Entergy to Consider the Environmental Impacts of Intentional Attacks on the Vermont Yankee Pool and Refer Its Ruling to the Commission.**

As discussed in the Attorney General's June 16, 2006, letter to the ASLB, a recent decision by the U.S. Court of Appeals for the Ninth Circuit has a direct bearing on the Attorney General's contention. In *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Commission*, No. 03-74628 (June 2, 2006) ("*Mothers for Peace*"), the Court

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<sup>21</sup> The experts' testimony is cited in footnotes 45, 46, and 47 and Section 12 of Dr. Thompson's Report.

reversed a 2003 decision by the NRC Commissioners that had denied the intervenors a hearing on the question of whether NEPA required preparation of an environmental impact statement to evaluate the impacts of an intentional attack on a proposed independent spent fuel storage facility at the Diablo Canyon nuclear power plant. *Pacific Gas & Electric Company* (Diablo Canyon ISFSI), CLI-03-1, 57 NRC 1 (2003) (“*Diablo Canyon*”). The *Mothers for Peace* decision is relevant here because intentional attacks constitute one of the potential causes of a pool accident for which the Attorney General seeks consideration in an EIS.<sup>22</sup>

In *Mothers for Peace*, the Court ruled that the Commission’s rationale for refusing to consider the environmental impacts of intentional malicious attacks against nuclear facilities, as set forth in *Diablo Canyon* and *Private Fuel Storage* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340 (2002) (“*PFS*”), fails to meet NEPA’s reasonableness standard. *Id.*, slip op. at 6096. The Court also determined that the question of whether intentional attacks on nuclear facilities are reasonably foreseeable is a question of law rather than a question of fact. *Id.*, slip op. at 6081-83. Finally, the Court held that as a matter of law, “the possibility of terrorist attack is not so ‘remote and highly speculative’ as to be beyond NEPA’s requirements.” *Id.*, slip op. at 6089, quoting *PFS*, 56 NRC at 349. The Court remanded the case to the NRC for further proceedings. *Id.*, slip op. at 6096.

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<sup>22</sup> Entergy mischaracterizes the Attorney General’s contention by arguing that other accident causes are mentioned only “in passing” and that the “clear focus of the contention is on loss of cooling water caused by terrorist attacks.” Entergy Answer at 25. To the contrary, it is clear that the Attorney General seeks a complete analysis of the full range of potential causes of a pool fire, including equipment failure, human error, natural forces, and intentional malicious acts. Hearing Request at 32-33.

Entergy and the NRC Staff argue that *Mothers for Peace* is inapplicable because the Court has not yet issued its mandate, and the time for seeking reconsideration or review has not expired. Entergy Answer at 26, NRC Staff Answer at 20. They also argue that the Commission already has evaluated the environmental impacts of intentional attacks in a supplement to the License Renewal GEIS. Entergy Answer at 25-26, NRC Staff at 19, citing *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-12, 58 NRC 185 (2002) (“*Duke Energy*”). They contend that unless the Commission orders otherwise, the ASLB should continue to follow the Commission’s existing policy of refusing to consider the impacts of intentional attacks in EISs.

The Attorney General believes that the *Mothers for Peace* decision is an important precedent that should be applied in this case by requiring the NRC to consider the environmental impacts of intentional attacks on the Vermont Yankee pool in an EIS. The *Duke Energy* decision would not preclude such a ruling, because the supplemental GEIS that it refers to only addressed intentionally caused reactor accidents, not spent pool accidents. Moreover, although the mandate has not issued, it would not be consistent with the Commission’s overall policy of setting milestones for the steady progress of license renewal cases to delay a ruling based on the possibility of a motion for *en banc* review or an appeal.<sup>23</sup>

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<sup>23</sup> Entergy also argues that there is a conflict between the Ninth and Third Circuits. Entergy Answer at 26, citing *Limerick Ecology Action*, 869 F.2d at 741-44. As discussed in the Attorney General’s Hearing Request at page 17 n.5, however, the NRC decision refusing to consider sabotage impacts was based on a factual finding that the intervenor had not presented “credible evidence or theory” that would “cast any serious doubt” on the Commission’s factual conclusion that sabotage risk analysis is beyond current PRA methods. In contrast, the *PFS* decision reviewed by the Ninth Circuit was based on the

The Attorney also believes that under the Commission's Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 23 (1998) ("Statement of Policy"), the question of the applicability of *Mothers for Peace* is appropriate for interlocutory review by the Commission because it is a novel issue whose disposition would affect the proceeding in a pervasive manner. *Id.*, 10 C.F.R. 2.786(g).

NRC regulations confer discretion on the ASLB to make a ruling and refer it to the Commission, or to certify a question to the Commission. 10 C.F.R. § 2.319(l). *See also* Statement of Policy, 48 NRC at 23. Therefore, the Attorney General requests the ASLB to admit the aspect of the Attorney General's contention which seeks consideration of the environmental impacts of a terrorist attack on the Vermont Yankee pools, and refer its ruling to the Commission. Given that the ASLB is responsible for judging the admissibility of the Attorney General's entire contention, which seeks consideration of fuel pool accidents based on a wide range of intentional and unintentional causes, it would be more conducive to the development of a sound record for the ASLB to rule on the question before seeking Commission review, rather than to merely certify the question to the Commission.

### **III. THE ATTORNEY GENERAL'S BACKFIT PETITION IS NOT BEFORE THE ASLB.**

Entergy contends that the Attorney General's backfit petition should be rejected because it is outside the scope of this license renewal proceeding. Entergy Answer at 27. The NRC Staff recognizes that the petition was submitted to the Commission and not the

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purely legal conclusion that consideration of the environmental impacts of intentional attacks on nuclear facilities is not required by NEPA. Because the decisions reviewed in the *Mothers for Peace* and *Limerick* decisions are so different, the Courts' decisions in *Mothers for Peace* and *Limerick* cannot be said to conflict.

ASLB, but seeks dismissal of the petition on the ground that there is no provision in the rules for an adjudicatory hearing on a backfit issue. NRC Staff Answer at 21.

The Attorney General is fully aware of the NRC's policy of refusing to consider non-aging-related safety issues in license renewal proceedings, and therefore did not raise his request for a backfit as a contention. Instead, he separately petitioned the Commission for a backfit of the Vermont Yankee plant. The Attorney General's petition for a backfit of the Vermont Yankee nuclear power plant remains before the Commission, and has not been referred to the ASLB.<sup>24</sup> Any objections that Entergy and the NRC Staff wish to make to the Attorney General's petition should have been filed with the Commission.

Respectfully submitted,  
COMMONWEALTH OF MASSACHUSETTS

By its Attorneys,

THOMAS F. REILLY  
ATTORNEY GENERAL

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<sup>24</sup> The Commission's June 7, 2006, notice of the establishment of an ASLB authorizes the ASLB to consider only the Attorney General's request a hearing on Entergy's license renewal application. *See also* Memorandum from Annette Vietti-Cook, NRC Secretary, to G. Paul Bollwerk, III, Chief Administrative Judge, ASLB Panel, re: Request for Hearing with Respect to the License Renewal Application for the Vermont Yankee Nuclear Power Station (June 6, 2006), which refers only the Attorney General's hearing request to the ASLB and makes no mention of his backfit petition.



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June 30, 2006



### CERTIFICATE OF SERVICE

I hereby certify that on June 30, 2006, copies of the foregoing Massachusetts Attorney General's Reply to Entergy's and NRC Staff's Responses to Hearing Request and Petition to Intervene With Respect to Vermont Yankee License Renewal Proceeding were served on the following by first-class mail and/or electronic mail, as indicated below:

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