

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

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In the Matter of)	
)	
Vermont Yankee Nuclear)	
Power Corporation)	Docket No. 50-271-OLA
)	(Spent Fuel Pool
(Vermont Yankee Nuclear)	Amendment)
Power Station))	
_____)	

NEW ENGLAND COALITION ON NUCLEAR
POLLUTION'S MEMORANDUM ON NUREG-1353

Both the applicant, Vermont Yankee, and the NRC Staff referred to and relied on NUREG-1353, "Regulatory Analysis For The Resolution of Generic Issue 82 'Beyond Design Basis Accidents in Spent Fuel Pools'" (May 1989) in their May 3, 1989, oral argument to this Board on the admission of Joint Environmental Contention 1. The New England Coalition on Nuclear Pollution ("NECNP") first received a copy of this newly issued document on May 5, 1989, and, therefore, had no opportunity to address the issues raised therein. Consequently, NECNP now submits this memorandum on NUREG-1353's applicability to this case and in response to the applicant's and staff's arguments.

NUREG-1353 in no way undermines the findings in the Brookhaven National Laboratory Report¹ and the Livermore Laboratory

¹ NUREG/CR-4982, "Severe Accidents in Spent Fuel Pools in Support of Generic Safety Issue 82," Brookhaven National Laboratory (July 1987). This report concludes that there is a significantly increased risk of a self-sustaining zircaloy cladding fire in the spent fuel pool as a result of high density storage of spent fuel and recommends against such storage. Id. at 54, 57, 63, 107.

Report,² discussed in NECNP's Brief, that there is a significantly increased risk of a severe accident as a result of the proposed spent fuel densification and expansion.³ To the contrary, the report suggests that the consequences of such an accident are even larger than previously thought.⁴ NUREG-1353 contains the staff's judgment that there should be no changes in the NRC's safety regulations to deal with the increased risks of a self-sustaining zircaloy cladding fire identified in the reports referenced by NECNP. However, NUREG-1353 makes no binding factual findings, supported with evidence which has been subjected to the public participation mandated by law, that the risks of an accident are remote and speculative. Thus, there is nothing in NUREG-1353 which changes the fact that Joint Environmental Contention 1 meets the requirements for admission of a NEPA contention under 10 C.F.R. § 2.714, as was expressly found in the Sierra Club v. NRC⁵ and Limerick⁶ decisions.

These court decisions make clear that the sole relevant inquiry, in judging the admissibility of a National Environmental

² NUREG/CR-5176, "Seismic Failure and Cask Drop Analyses of the Spent Fuel Pools at Two Representative Nuclear Power Plants," Lawrence Livermore National Laboratory (January 1989) (available in the NRC Public Document Room as of March 3, 1989); see NECNP Brief at n.12 and 30.

³ NECNP Brief at 9 and n. 12, 28-30.

⁴ NUREG-1353 at Tables 4.8.2 and 4.8.3.

⁵ 862 F.2d 228 (9th Cir. 1988).

⁶ No. 85-3431 (3d Cir. February 28, 1989).

Policy Act ("NEPA") contention, is whether the contention postulates an accident whose risk is significantly increased by the proposed action so as to require the preparation of an Environmental Impact Statement ("EIS"). A determination that there is no violation of the NRC's safety standards does not satisfy NEPA requirements that an EIS be prepared for any significant impact affecting the human environment. Compliance with the Commission's safety standards provides no basis for a categorical, threshold determination that the postulated accident scenario is by definition remote and speculative and thus immune to NEPA consideration. Such a determination may only be made upon facts presented at a hearing or sworn to upon motion for summary judgment.⁷ Accordingly, NUREG-1353's judgment that no change in safety requirements is warranted is irrelevant to satisfaction of NEPA obligations.

Nor does NUREG-1353 have any impact on the fact that Joint Environmental Contention 1 is stated with adequate specificity. Sierra Club v. NRC establishes beyond question that a contention is sufficiently specific if adequate notice has been provided to the parties of the issues to be litigated. Like the contention found admissible in Sierra Club v. NRC, Joint Environmental Contention 1 informs the parties that an EIS is required because there is a significantly increased risk of a self-sustaining zircaloy cladding fire as a result of the requested license amend-

⁷ See Limerick, slip op. at 23-24; NECNP Brief at 26-27.

ment. It cites the same Brookhaven Report, describes a causal accident scenario, and identifies those factors that make this scenario likely to occur at Vermont Yankee (i.e., the particular vulnerability of the GE Mark I reactor design).

The appropriate specificity inquiry is not whether there is a basis for a finding that there is an increased risk of any particular initiating event (in this case hydrogen detonation in the reactor building), but rather whether there is a basis for a finding that there is an increased risk associated with a self-sustaining zircaloy cladding fire itself as a result of the spent fuel pool densification and expansion. The Brookhaven and Livermore reports establish that there is an increased probability of a self-sustaining zircaloy cladding fire regardless of the initiating event, due solely to the increased density of the fuel rods. However, the consequences of such a fire are also increased by virtue of the presence of a larger inventory of radioactive material in the pool. Risk is a combination of probability and consequences. So long as this risk of a zircaloy cladding fire is increased by the spent fuel densification and expansion, the risk of any postulated accident scenario is likewise increased.⁸ Thus, since NECNP has postulated one

⁸ An example illustrates this key difference. Assume that the risk of the initiating event is 1, or any number greater than 0. That figure will remain a constant regardless of whether or not a spent fuel pool expansion is allowed. The Brookhaven Report finds that the risk of a self-sustaining zircaloy cladding fire increases if the spent fuel pool is expanded. Assume that the risk of a zircaloy fire increases from 2 to 3 if the spent fuel pool is expanded. Even though the risk of the initiating event does not change, the risk of a zircaloy cladding fire in the spent fuel pool will increase directly because of the spent fuel pool amendment. Therefore, the overall risk of a severe accident, resulting from

plausible initiating event, involving hydrogen detonation in the reactor building, it has satisfied the Sierra Club standards of admissibility.⁹ Any further inquiry by the Appeal Board would constitute an impermissible merits determination. See Sierra Club v. NRC, 862 F.2d at 228.

Indeed, NECNP has provided even more specificity than was provided in the contention found admissible in Sierra Club v. NRC. The Diablo Canyon Appeal Board specifically recognized that NECNP's contention was more specific than that of the Sierra Club because it postulated increased risks as a result of the particular infirmities of the Vermont Yankee containment. NECNP cannot be penalized with nonadmission because it has gone beyond the Sierra Club case and provided increased specificity for its contention.

Thus, NUREG-1353 in no way changes the fact that under the Sierra Club and Limerick decisions, NECNP has the right to a factual hearing on the increased risks associated with the proposed amendment. NECNP has met all legal requirements for the admission of a NEPA contention. The law is clear that NRC may not

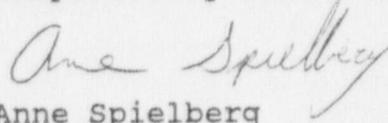
(continued)

any initiating event and the zircaloy fire is increased because of the spent fuel expansion.

⁹ No party has challenged that hydrogen detonation is a plausible initiating event for a zircaloy cladding fire. Indeed, a seismic event, whose increased probability is discussed in both the Brookhaven Report at 4 and the Livermore Report at xiii and 6-6, could result in the hydrogen detonation NECNP has proposed as one plausible initiating event resulting in a zircaloy cladding fire.

simply declare a self-sustaining zircaloy cladding fire to be a remote and speculative event beyond the purview of NEPA. Under the Commission's rules and prevailing law, that is a factual determination that can be reached only upon a record and opportunity for public participation, not by fiat. Minnesota V. NRC, 602 F.2d 412, 417-18 (D.C. Cir. 1979)

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May 10, 1989

CERTIFICATE OF SERVICE

DOCKETED
USNRC

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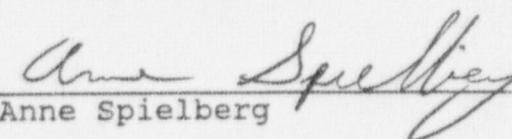
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