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September 14, 1988

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	
Vermont Yankee Nuclear Power Corporation	Docket N. 50-271-OLA (Spent Fuel Pool)
(Vermont Yankee Nuclear Power Station)	

JOINT REPLY OF NEW ENGLAND COALITION ON NUCLEAR POLLUTION AND COMMONWEALTH OF MASSACHUSETTS TO THE STAFF AND LICENSEE'S OBJECTIONS TO LATE-FILED CONTENTIONS

By permission of the Board, NECNP and the Commonwealth of Massachusetts reply herein to Licensee's Response to 'Joint Motion of [NECNP] and the Commonwealth of Massachusetts for Leave to File Late-Filed Contentions, Aug. 29, 1988 (hereinafter "Licensee's Response") and NRC Staff Response to Joint Motion of New England Coalition on Nuclear Pollution and the Commonwealth of Massachusetts for Leave to File Late-Filed Contentions, Sep. 6, 1988 (hereinafter "Staff Response"). Note that the contentions have been retitled "Environmental Contentions" 1, 2 and 3 in order to avoid confusion with the safety contention already admitted.

Environmental Contention 1

This contention alleges that the risk associated with a self-sustaining fire in the spent fuel pool, without hypothesiz-

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ing a beyond-design-basis event, constitutes sufficient potential effect on the environment to require preparation of an environmental impact statement.

Both Vermont Yankee and the Staff argue that the contention is untimely because the Appeal Board rejected NECNP's former Contention 2 on its merits, not on ripeness grounds. This is true. However, the contention was also non-ripe for the same reasons that former contention 3 was found by the Appeal Board to be non-ripe: a contention alleging failure by the NRC to comply with NEPA must await the Staff's initial NEPA document. See ALAB-869, 26 NRC 13, 32-34 (1987). Prior to that time, it is "baseless." Any NEPA contention filed by the Intervenors prior to issuance of the EA would have been premature under the Appeal Board's ruling. The Intervenors were required to wait until that document issued.

Both Vermont Yankee and the Staff also allege that the contention is premised on a beyond-design-basis event. On the contrary, the Intervenors specifically alleged that this is not so.

Intervenors referenced NUREG-1150 at pages 4-34 and 4-35[1] for this proposition. Joint Motion of New England Coalition on Nuclear Pollution and the Commonwealth of Massachusetts for Leave to File Late-Filed Contentions, Aug. 15, 1988, p.3. The reference supports a conclusion that when the plant is de-inerted, hydrogen detonation and deflagration in the reactor

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[1] The reference should also include page 4-33.

building is a significant risk. Vermont Yankee is de-inerted for 24 hours during start-up and shutdown. The Licensee has calculated that this constitutes 1.1% of the time that the plant is operating. Vermont Yankee Containment Safety Study, Aug. 1986. The reference also notes that plant procedures call for venting of hydrogen to the reactor building under certain conditions. Intervenors allege that detonation of this hydrogen could lead to a self-sustaining fire in the spent fuel pool.

Environmental Contention 2

This contention alleges both that the Staff's analysis in the EA of worker exposure is inadequate and that those risks are sufficient to trigger the requirement for an EIS.

10 C.F.R. § 51.30, which governs the content of EAs, requires a discussion of "the environmental impacts of the proposed action and alternatives as appropriate." The 33 person-rem "goal" of worker exposure stated in the EA is simply a reiteration of the licensee's number, part of which was supplied to the Staff in a phone call of July 7, 1988. Environmental Assessment and Finding of No Significant Impact, July 25, 1988, p.8. While stating that its conclusions are based on a wealth of experience, no data whatever is provided by which one could judge whether the experience justifies the conclusion. We are not even told what the range of worker exposures associated with reracking has been.

As Intervenors note, there is not one scintilla of data provided to support the conclusion that this level of exposure will be achieved, nor what assumptions went into its calculation, nor what exposures would be associated with alternative assumptions, nor how this goal might be affected if a filter fails or a fuel bundle is dropped. Contrary to the Staff's assertion, such events are hardly remote and speculative. Indeed, fuel handling accidents are assessed in the Safety Evaluation Report for this requested amendment, but only in the context of the potential exposures to the public offsite that could result. See SER at 18-19. The worker exposure figures are not given although they must be easily derivable.

In addition, IE Information Notice No. 88-65: Inadvertent Drainages of Spent Fuel Pools, August 18, 1988, cites three instances within the past year alone of unintentional drainage of spent fuel pools associated with failures of valves, monitors, alarms and human and procedural errors causing plugging of the pool purification system. A copy is attached. Such events, which "can cause potentially high radiation doses and damage to fuel element doses" (Id. at 2) are, far from remote and speculative, rather commonplace, judging by this record.

It must be noted in this regard that even though the agency need not go into great detail, the obligation to provide an independent reasoned discussion which supports its conclusions is the NRC's. Under the agency's rules and applicable law, this obliga-

tion extends to Environmental Assessments. This wholly conclusory discussion qualifies as neither independent nor reasoned.

Environmental Contention 3

The gist of Contention 3 is that, even without reaching the question of whether or not an Environmental Impact Statement is required, the NRC has failed to do what is required at a minimum for an environmental assessment under 10 CFR § 51.30(a)(ii); to wit: the Staff has utterly failed to "consider" the alternative of dry cask storage. After observing that a generic assessment of dry cask storage has not been made by the staff, the sum total of the EA discussion of this alternative, which is combined for discussion with other "independent spent fuel storage installations" is as follows:

> While these alternatives are environmentally acceptable, such new storage facility, either at the Vermont Yankee site or at a location offsite, would require new site specific design and construction, including equipment for the transfer of spent fuel. NRC review evaluation and licensing of such a facility would also be required. There is little likelihood that this effort could be completed in time to meet the need for additional capacity, as discussed in Section 1.2. Furthermore, the expansion capacity of the existing pool is a resource that should be used.

Environmental Assessment and Finding of No Significant Impact, July 25, 1988, p.4.

It is apparent on its face that the quoted material does not "consider" the alternative in anything approaching a meaningful or informed matter. There is no discussion whatever of what such an alternative would entail, much less a comparison of the

environmental costs and benefits of dry cask storage with the licensee's preferred approach of dense compaction within the existing pool. The alternative is summarily dismissed because of a characteristic it shares with all alternatives other than Vermont Yankee's preference: it has not yet been designed, constructed or licensed at Vermont Yankee. The staff concludes, therefore, that it might not be completed in time to meet Vermont Yankee's asserted need. No support whatever is provided for this bald assertion, which is couched in qualified terms: "there is little likelihood that the effort could be completed in time..." Id. at 4. Moreover, an alternative cannot be summarily dismissed on such grounds.

Indeed, neither Vermont Yankee nor the Staff make a serious effort to defend this discussion. Instead, they argue that Section 102(2)(E) of NEPA does not apply and that the EA therefore need not consider alternatives pursuant to 10 C.F.R. § 51.30(a)(11).

Section 102(2)E, 42 U.S.C.'s 4332(E) requires the government to:

> Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.

Both Vermont Yankee and the Staff claim that no such unresolved conflicts are unresolved here. In so doing, they

ignore settled law on the scope and applicability of Section 102(2)(E).[2]

It has long been established that the obligation to study, describe and develop alternatives applies whenever the objective of a project "can be achieved in one of two or more ways that will have differing impacts on the environment," Trinity Episcopal School Corp. v. Romney, 523 F.2d 88, 93 (2d Cir. 1975). See also Hanley v. Kleindeinst, 471 F.2d 823 92d Cir. 1975); North Carolina v. Hudson 665 F. Supp. 428, 444-6 (E.D.N.C. 1984). This obligation cannot be evaded by claims that the impact of the preferred approach is insignificant. See North Carolina v. Hudson, supra at 446. Nor may the reviewing agency neglect its independent duties to consider alternatives by accepting the applicant's definition of the need to be met, Id; See also Trinity Episcopal Church, supra at 94. That is exactly what has been done here and it makes a mockery of NEPA. As the staff admits, dry cask storage is environmentally acceptable. No argument is made that its impacts are not "different" from the proposed alternative. For one thing, since the fuel will eventually have to be removed from the pool to be shipped to a waste dis-

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[2] Beyond this, the Staff's argument is baffling. It seems to resuscitate the failed position that this proposal is subsumed within the environmental impact statement for the Vermont Yankee operating license. NRC Staff Response at 10. The original FES treated none of these issues, since the original license was only to store 1/5 of the amount of fuel involved here, and that for only a few months.

posal site, removing older rods to dry cask storage now would obviate the need to move all the rods twice. Under the law, the dry cask alternative must be considered in more than a perfunctory manner.

Vermont Yankee argues that Borough of Morrisville v. Delaware River Basin Commission, 399 F. Supp. 469, 479 and n. 8 (E.D. Pa. 1975) is squarely on point to the effect that alternatives need not be considered absent a significant environmental impact. Licensee's Response, n. 24 at p. 15. A reading of the referenced page indicates that the Court was interpreting Section 102(2)(c) of NEPA; Section 102(2)(E) does not appear to have been cited or its applicability argued. Even were it otherwise, the great weight of the authority is to the contrary, as discussed above. Section 102(2)(E) applies even when an impact significant enough to require a detailed impact statement is not present. Environmental Defense Fund v. Corps. of Engineers, 492 F.2d, 123, 1135 (4th Cir. 1974).

The Staff claims that Section 102(2)(E) concerns EIS's, not EAS's. NRC Staff Response, p. 9. Again, this is just wrong.

As established above, the duties imposed under Section 102(2)(E) of NEPA are entirely independent of Section 102(2)(c). Eg, Trinity Episcopal Church, supra at 93.

Conclusion

As the Staff acknowledges, Intervenors are only required at this stage to set forth a basis for further inquiry, not to

establish their entitlement to prevail on the merits. See Staff Response, p. 3-4. Yet, much of both the Staff's and Licensee's arguments do, in fact, go to the merits. When Intervenors allege, for example, that specific events could lead to increased worker exposures, they claim such events are unlikely. Were the Board to dismiss a contention on these or similar grounds, it would clearly be a merits ruling in advance of the submission of any evidence on the subject.

The Intervenors urge acceptance of their proferred late-filed contentions.

Respectfully submitted,

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August 18, 1988

NRC INFORMATION NOTICE NO. 88-65: INADVERTENT DRAINAGES OF SPENT FUEL POOLS

Addressees:

All holders of operating licenses or construction permits for nuclear power reactors and fuel storage facilities.

Purpose:

This information notice is being provided to alert addressees to potential problems resulting from unintentional draining of spent fuel pools (SFPs). It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

Wolf Creek - On December 22, 1987 the licensee, Kansas Gas and Electric, unintentionally lowered the level of water in the SFP to an estimated minimum height of 22 feet above the stored fuel. The licensee determined that a valve in the return line to the refueling water storage tank (RWST) had been inadvertently left open two days earlier after operations to clean up the RWST inventory through the SFP clean up system. The licensee stopped the drainage by closing this valve.

The safety-related area radiation monitors near the SFP did not alarm. In the control room, the SFP level indicator and the low level alarm on the SFP cooling system pump suction were both inoperable. The control room operators were alerted to this event by the successive tripping of SFP cooling system pump A while they were operating the SFP clean up system.

River Bend - On September 20, 1987 the licensee, Gulf States Utilities, while preparing for refueling, intentionally lowered the level in the upper SFP to 2 feet below the normal level of 185 feet to allow for the expected water displacement when the steam dryer assembly would be transferred there. This caused the level indicator in the control room to go off scale as expected and the related low level alarm to activate as expected. Pool level indication is provided for a narrow range: 185 feet ± 12 1/2 inches. The alarm is set at 184 feet 7 1/2 inches when the level decreases.

After placing the steam dryer in the pool, the plant operators opened two valves from the condensate storage tank (CST) with the intent of then closing two valves in the SFP purification suction line (see Figure 1). Within 20 minutes, while the four valves were opened, the level decreased an additional 5 feet, partially uncovering the dryer assembly. Safety-related area radiation monitors at both ends of the pool alarmed and indicated fields of about 80 mr/hr.

The drainage had been made possible by a procedural sequence establishing a free flow path in conjunction with a nonredundant antisiphon device (a vertical vent pipe under water) in the suction line of the SFP purification system. The antisiphon device had been plugged.

The operator in the control room was not aware of the pool draining because the level indicator was off scale. At the time of the SFP area radiation monitor alarms, however, an operator at an auxiliary equipment control panel noticed a water level increase in the CST. Realizing that this combination of signals meant the SFP was draining, operators closed the two manual valves in the SPF purification system suction line to stop the draining. They restored the level in about 2 hours using one SFP purification pump drawing suction from the CST.

Discussion:

In addition to the two events discussed above, another partial drainage of the spent fuel pool occurred at San Onofre 3 on June 22, 1988. Drainage of SFPs can cause potentially high radiation doses and damage to fuel elements resulting from the uncovery of spent fuel in storage or, in particular, in transit. Although the consequences of the events described in this information notice were not significant, they indicate deficiencies in control and management of refueling operations and SFP safety.

At San Onofre, the SFP cooling system design was apparently properly siphon-protected, but the SFP purification system design apparently was not. At River Bend, antisiphon devices in the SFP purification system were plugged to permit preoperational testing but were not unplugged at the beginning of refueling operations.

Operating procedures for the interconnected systems associated with SFPs either were not sufficiently detailed or were incorrect and failed to prevent alignments causing unintentional drainage. At River Bend, the range of SFP level indication was limited. Detailed operating procedures were available but were not correct. At Wolf Creek, detailed operating procedures did not exist.

Surveillance procedures were not implemented to ensure the operability of all instrumentation and control equipment. At Wolf Creek, there were no surveillance procedures for water level instrumentation that had been inoperable for a year. Also, the SFP cooling pump suction alarm was inoperable.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact one of the technical contacts listed below or the Regional Administrator of the appropriate regional office.

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Attachments:
1. Figure 1. Simplified Flow Path Diagram of Upper Pool Purification System at River Bend
2. List of Recently Issued NRC Information Notices

CERTIFICATE OF SERVICE

I certify that on September 14, 1988, copies of the foregoing Joint Reply of New England Coalition on Nuclear Polution and Commonwealth of Massachusetts to the Staff and Licensee's Objections to Late-filed Contentions were served by first-class mail, or as otherwise indicated, on all parties listed below.

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