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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKET # 50-271-OLA

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

'89 JUN 14 P5:01

In the Matter of

VERMONT YANKEE NUCLEAR  
POWER CORPORATION

(Vermont Yankee Nuclear Power  
Station)

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Docket No. 50-271-OLA  
(Spent Fuel Pool Amendment)

OFFICE OF THE  
DOCKET CLERK  
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NRC STAFF REPLY TO BRIEFS OF THE NEW ENGLAND COALITION ON  
NUCLEAR POLLUTION AND VERMONT YANKEE ON ENVIRONMENTAL CONTENTION 3

The Nuclear Regulatory Commission (NRC) staff hereby submits its reply to the facts, data and legal arguments raised by the New England Coalition on Nuclear Pollution (NECNP) and Vermont Yankee Nuclear Power Corporation in their briefs dated May 23, 1989. "New England Coalition on Nuclear Power's Brief and Summary of Relevant Facts and Arguments on which NECNP Intends to Rely at Oral Argument on Environmental Contention 3" (NECNP Brief), dated May 23, 1989; "Memorandum of Vermont Yankee Power Corporation on the Existence of a Genuine and Substantial Question of Fact Regarding Environmental Contention 3" (Licensee Brief), dated May 23, 1989. It is the Staff's position that no genuine and substantial dispute of fact relating to Intervenor's Environmental Contention 3 has been raised in the Intervenor's brief or its supporting testimony. The Staff has met its burden of proof on Environmental Contention 3 and is entitled, as a matter of law, to a decision in its favor on Environmental Contention 3. This reply brief is supported by an "Affidavit of Frederick C. Sturz and Morton B. Fairtile of the NRC Staff Regarding New England Coalition on Nuclear Pollution and the Commonwealth of Massachusetts' Environmental Contention 3" (Staff Affidavit).

## I. INTRODUCTION

The Supreme Court has stated "that NEPA, while establishing 'significant goals for the Nation' imposes upon agencies duties that are 'essentially procedural'." Strycker's Bay Neighborhood Council v. Karlen, 444 U.S. 223, 227; citing Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 558 (1978); see also Marsh v. Oregon Natural Resources Council, 57 U.S.L.W. 4504 (May 1, 1989) and Robertson v. Methow Valley Citizens Council, 57 U.S.L.W. 4497 (May 1, 1989). The Court further defined the scope of the National Environmental Policy Act (NEPA) stating:

Vermont Yankee cuts sharply against the Court of Appeals' conclusion that an agency, in selecting a course of action, must elevate environmental concerns over other appropriate considerations. On the contrary, once an agency has made a decision subject to NEPA's procedural requirements, the only role for the court is to insure the agency has considered the environmental consequences; . . .

Strycker's Bay, supra, at 227. The NRC staff adequately carried out its procedural duties under the National Environmental Policy Act in its review of the proposed licensing amendment.

The Intervenors imply that the Licensing Board has a unique role in any proceeding which involves a NEPA claim. NECNP Brief at 6. The Intervenors cite 10 C.F.R. §§ 51.105(a)(2) and (3) as support for the Licensing Board's special powers and obligations in reviewing NEPA claims. The Staff points out that these subsections refer to a Licensing Board's responsibilities when public hearings are conducted in proceedings for the issuance of construction permits or licenses to manufacture and therefore do not apply to this proceeding. See 10 C.F.R. § 51.105(a).

## II. SEVERE ACCIDENTS ARE BEYOND THE SCOPE OF ENVIRONMENTAL CONTENTION 3

NECNP should not be able to raise the issue of severe accidents in this proceeding. First, there is an element of surprise; severe accidents

were specifically excluded as a basis for Environmental Contention 3. Vermont Yankee Nuclear Power Corporation (Vermont Yankee Nuclear Power Station), LBP-88-26, 28 NRC 440, 450 (1988); LBP-89-6, 29 NRC 127, 134-36 (1989). Secondly, NECNP appears to be redefining its contention by claiming that expansion of spent fuel pool storage capacity will have a significant effect on the human environment. In other words, NECNP is treating § 102(2)(E) as if it were § 102(2)(C). Thirdly, NECNP has failed to provide any technical support for its claim that expanded wet storage carries "substantially increased risk" and that dry cask storage is "unquestionably an environmentally preferable alternative." NECNP Brief at 10-11; "Testimony of Gordon Thompson," Parts VI, at 8-9.

III. THE NRC STAFF FULLY COMPLIED WITH THE REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT

A. Requirements of NEPA §§ 102(2)(C) and 102(2)(E)

The National Environmental Policy Act (NEPA) sets forth two provisions which require a federal agency to evaluate alternatives to a proposed action. Sections 102(2)(C) and (E) of NEPA; 42 U.S.C. § 4332(2)(C) and (E). The relevant provisions are:

(2) all agencies of the Federal government shall

(C) include in every recommendation a report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --

(iii) Alternatives to the proposed action.

\* \* \*

- (E) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. (Emphasis added).

The requirement that a federal agency evaluate alternatives to a proposed action is triggered in two ways: (1) by a major federal action significantly affecting the human environment and/or; (2) by an unresolved conflict concerning available resources. The two-pronged threshold question must be addressed before determining whether an agency's scope of review of alternatives is sufficient. If neither prong of the threshold question is triggered a federal agency has no obligation to evaluate alternatives to a proposed action under NEPA.

In River Road Alliance v. Corps of Engineers of U.S. Army, 764 F.2d 445, 452 (7th Cir. 1985), the Seventh Circuit considered the threshold question of § 102 and found there were unresolved conflicts concerning alternative uses of available resources. Only after § 102(2)(E) is triggered does NEPA require an examination, of the appropriate alternatives to recommended courses of action, which is "independent of the question of environmental impact statements, and operative even if the agency finds no significant environmental impact." Id. "[N]onsignificant impact does not equal no impact; so if an even less harmful alternative is feasible, it ought to be considered. But the smaller the impact, the less extensive a search for alternatives can the agency reasonably be required to conduct." Id. Where "the objective of a major federal project can be achieved in one of two or more ways that will have differing impacts on the environment, the responsible agent is required to study, develop and describe each alternative for appropriate consideration." Trinity Episcopal School Corporation v. Romney, 523 F.2d 88, 93 (2d. Cir. 1975).

(Emphasis added). The Trinity dictum does not imply that the requirements of § 102(2)(E) of NEPA are triggered when the objective of any action can be achieved in two or more ways, as the Intervenor suggests. NECNP Brief at 8. The Trinity court does not define the limits of § 102(2)(E) of NEPA, but finds that where the objective of a major federal action can be achieved in one or more ways there is by definition an unresolved conflict concerning alternative uses of available resources. Trinity, supra, at 93. The mere fact that the storage of spent fuel at Vermont Yankee can be achieved by various methods does not trigger a statutory requirement that the Staff evaluate and recommend a particular method.

B. The Proposed Action Does Not Involve Unresolved Conflicts Concerning Alternative Uses of Available Resources

The Appeal Board has addressed the issue of what are the "available resources" in a spent fuel pool expansion and what constitutes "unresolved conflicts" over such resources. Virginia Electric and Power Company (North Anna Nuclear Power Station, Units 1 and 2), ALAB-584, 11 NRC 451, 458 (1980). The Appeal Board found:

the intervenors have never endeavored to explain why the installation of new racks in a spent fuel pool might engender alternative uses of available resources. And it is just as difficult now as it was a year ago (when Trojan was decided) to fathom how such a conflict might arise.

North Anna, supra, at 458. The Appeal Board was not persuaded that the materials used in a pool expansion, notably stainless steel and engineering talent, constitute resources over which unresolved conflicts exist. Id. at 458 n.14. Similarly, the Intervenor here have raised no

genuine factual issue which constitutes an unresolved conflict over the available resources involved in the proposed action.

C. The Intervenors Have Not Established That Dry Cask Storage Is Environmentally Superior

The requirements of § 102(2)(E) of NEPA are not triggered where there are negligible environmental impacts and no unresolved conflicts over the commitment of available resources. Virginia Electric Power Company (North Anna Nuclear Power Station, Units 1 and 2), ALAB-584, 11 NRC 451, 457 (1980); Portland General Electric Company (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 266 (1979). "[T]here is no obligation to search out possible alternatives to a course which itself will not either harm the environment or bring into serious question the manner in which this country's resources are being expanded." Trojan, supra, at 266. An "alternative which would result in similar or greater harm need not be discussed." Sierra Club v. Morton, 510 F2d 813, 825 (5th Cir. 1975).

In a review of the Staff's obligations under NEPA to examine alternatives to a spent fuel pool expansion, the Appeal Board stated:

there was no necessity to explore further the Intervenors' suggested alternatives unless there was some basis for believing that the proposed modification might either have a significant environmental effect or give rise to a controversy over the allocation of resources. Moreover, in order to reject the Applicant's proposal, it would have to be determined both that (1) at least one of the alternatives was environmentally superior; and (2) that environmental superiority was not outweighed by the other considerations such as comparative costs.

North Anna, supra, at 457-58; (emphasis in original).

Intervenors have not alleged in Environmental Contention 3 that the proposed action involves a significant environmental impact nor have they pointed to a specific unresolved conflict concerning available resources.<sup>1/</sup> Neither have they established that their preferred alternative, dry cask storage, is environmentally superior and that any alleged superiority is not outweighed by the comparative costs of the methods.

The Staff and the Licensee established that wet and dry cask storage methods have negligible impacts on the environment. Sturz Affidavit at ¶¶ 24, 33-36, 38-39; Vermont Yankee Testimony at 12-17. Economic costs of dry cask storage are estimated to be high, higher in fact than those associated with the proposed action. Vermont Yankee Testimony at 17-19. In addition, there are presently no NRC-approved casks for boiling water reactor (BWR) fuel. Sturz Affidavit at ¶ 27; Vermont Yankee Testimony at 10. The Staff is neutral on the issue of the superiority of the two storage methods. The Staff evaluated the consequences of each method; both methods were approved because they are environmentally benign. The proposed rule for Part 7.2 is not a Staff statement as to the environmental or economic superiority of dry cask storage but is merely based on the acceptability of such storage.

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<sup>1/</sup> The Intervenors must be required to identify the "available resources" over which they contend unresolved conflicts exist. Only by establishing that there are unresolved conflicts over available resources would the Intervenors provide a basis for Environmental Contention 3. Without such a showing the Intervenors' contention is a bald statement devoid of legal basis.

D. Alternatives to the Proposed Action Were Properly Considered by the NRC Staff

The Intervenors have misconstrued both the NRC Staff's role and its actions in the review of the proposed licensing amendment. NECNP Brief Part III, Section C at 9-10. In preparing an EA the Staff is not required to conduct comparative analyses of alternatives under NEPA, nor is the Staff required to choose among alternatives to a proposed action. The Staff must meet the requirements of 10 C.F.R. Part 51 and § 102(2) of NEPA. The Staff EA did so in the review of the proposed action.

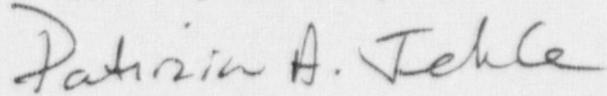
The Intervenors are mistaken when they suggest the Staff was negligent in the preparation of the Environmental Assessment. NECNP Brief at 12. The Staff performed its review of the Vermont Yankee amendment application and prepared its EA as required by the Commission's regulations. The length of time required to complete this work is a reflection of the demand on Staff resources, not a subterfuge to delay the amendment proceeding. The Environmental Assessment did not include a site-specific analysis of dry cask storage because neither NEPA nor the Commission's regulations require it. 42 U.S.C § 4332 (2); 10 C.F.R. Part 51. However, the Staff relied on its past licensing experience and the Part 72 proposed rulemaking in its consideration of the dry cask alternative. Sturz Affidavit at ¶ 27.

IV. CONCLUSION

For the reasons discussed above and set forth in the NRC Brief dated May 23, 1989, the Licensing Board should find that there is no genuine and substantial dispute of fact in the Intervenors' Environmental Contention 3 to be litigated, that the Staff has met its burden of proof on Environmental

Contention 3, and that the Staff is entitled to a decision in its favor on Environmental Contention 3 as a matter of law.

Respectfully submitted,

A handwritten signature in cursive script that reads "Patricia A. Jehle". The signature is written in dark ink and is positioned below the typed name.

Patricia A. Jehle  
Counsel for NRC Staff

Dated at Rockville, Maryland  
this 9th day of June, 1989.



Mr. Thompson expresses his opinion that "cask technology is relatively simple" and that there is "no fundamental reason" for the delay of several years which is required to design, license and construct an on-site dry cask storage facility. Thompson Testimony at 10. No technical support is provided for this statement; the testimony is devoid of a technical discussion of dry cask storage, its costs, its benefits, or its consequences. The Staff has provided estimates for the time needed to design, license, and construct a dry cask storage facility on the basis of its past licensing experience. "Affidavit of Frederick C. Sturz of the NRC Staff Regarding NECNP's Environmental Contention 3" (Sturz Affidavit), dated May 26, 1989, at ¶¶ 27, 28; see also "Sworn Testimony of Donald A. Reid, Michael J. Marian, Rudolph M. Grube, John M. Buchheit, Richard P. Pizzuti, and Peter S. Littlefield," (Licensee Testimony) at 10-12.

The Nuclear Regulatory Commission staff has reviewed the testimony submitted by Vermont Yankee Power Corporation. The Staff's comments on the Licensee Testimony are provided below.

The Staff concurs with the facts and data set forth in the Licensee Testimony as indicated below. The Staff concurs with Part III, Vermont Yankee Experience/Decision Process without reservations.

The Staff concurs in general with Part IV, Factors Affecting Scheduler Availability with the following clarifications. In Section C Vermont Yankee states that the time necessary to process an independent spent fuel storage installation (ISFSI) and issue a license would be 1 1/2 to 3 1/2 years. Licensee Testimony at 11-12. The Staff has previously stated that the time required to license an ISFSI is 1 to 1 1/2 years. Sturz Affidavit at ¶ 28. The Licensee's estimate of the time to design,

license, construct, and implement a dry storage facility is between four to six years. Licensee Testimony at 12. The Staff notes that these steps in the process will overlap and that six years is a reasonable estimate. The Licensee states that the Staff has not completed any safety evaluations for topical safety analysis reports (TSARs) for dry storage of boiling water reactor (BWR) fuel. Licensee Testimony at 11-13. The NRC staff has completed safety evaluations for TSARs for dry storage of BWR fuel. "NRC Staff Response to NECNP's Third Set of Interrogatories and Request for Production of Documents to the NRC Staff on the Staff's Environmental Assessment and Finding of No Significant Impact-Spent Fuel Expansion," dated March 14, 1989 at 11-13. The first was on May 15, 1985 for General Nuclear Systems, Inc. Castor 1c Topical Report. Id. The safety evaluation (SER) was completed and a letter of approval was issued. Id. However, the cask vendor did not resubmit an updated TSAR to bring it into compliance with the Staff's SER. Id. The future availability of this cask is uncertain. The second SER issued for dry storage of BWR fuel was on March 22, 1988 for FWEnergy Applications, Inc. Modular Vault Dry Storage Topical Report. The subject of the SER was a vault design, not a dry cask storage design. The Staff concludes that no storage casks for BWR fuel currently have active NRC approval. See Sturz Affidavit at 11.

The Staff concurs in Part V, Incremental Environmental Comparison with minor reservations. Section A refers to commitments between the State of Vermont and Vermont Yankee Nuclear Power Corporation which are not the concern of the NRC and the Staff expresses no opinion on these issues. Licensee Testimony at 12-13. Regarding Section C the Staff emphasizes that the environmental impacts of both wet and dry storage are

insignificant and that any environmental advantage reracking might have over dry cask storage is very small. See Licensee Testimony at 17.

The Staff concurs with Part IV, Comparative Economic Costs.

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Frederick C. Sturz  
Senior Project Manager for  
The Fuel Cycle Safety Branch

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Morton B. Fairtile  
Project Manager for  
The Vermont Yankee Nuclear  
Power Plant

Subscribed and Sworn to before me  
this 9th day of June, 1989.

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

STATEMENT OF PROFESSIONAL QUALIFICATIONS  
FREDERICK C. STURZ

My name is Frederick C. Sturz. I am a Senior Project Manager for the Fuel Cycle Safety Branch in the Division of Industrial and Medical Nuclear Safety in the Office of Nuclear Material Safety and Safeguards, United States Nuclear Regulatory Commission (NRC). I have served in this Branch since joining the NRC in June 1981. I am responsible for reviewing radiological safety and environmental impacts of proposed licensing actions for facilities for spent fuel storage, low-level waste treatment and storage, and spent fuel processing. I was project manager for licensing low-level radioactive waste storage facilities at the Sequoyah Nuclear Plant and at the Susquehanna Steam Electric Station. I was the environmental project manager for the licensing of Virginia Electric and Power Company's Surry Independent Spent Fuel Storage Installation (ISFSI), Carolina Power and Light's H. B. Robinson ISFSI, and Duke Power Company's Oconee ISFSI. I also assisted in the ISFSI licensing safety reviews.

From December 1977, until joining the NRC, I was employed by the United States Environmental Protection Agency in the Office of Radiation Programs. As an engineer, I performed technical analyses in the nuclear, chemical, and environmental engineering fields. These analyses related to identification of radioactive sources in process waste streams and engineering systems, effluent control, and cost effectiveness of control systems and their applicability. I also analyzed environmental impacts for a variety of nuclear facilities.

From December 1971 to June 1976, I served as an officer in the United States Navy. I served in positions in the engineering and operation departments aboard destroyers and as a destroyer squadron staff operations officer.

I graduated from the Pennsylvania State University in December 1971, with a Bachelor of Science degree in Nuclear Engineering.

I attended graduate school at Rensselaer Polytechnic Institute and received a Master of Science degree in Environmental Engineering in November 1977.

I am a member of the Health Physics Society.

STATEMENT OF PROFESSIONAL QUALIFICATIONS  
MORTON B. FAIRTILE

I have served as an AEC/NRC staff member from April 24, 1967, to the present time. In the preceding 14 years I have been an Operating Reactor Project Manager on the following plants: two B&W stations, Crystal River 3 and Oconee; one CE station, Maine Yankee; four GE stations, FitzPatrick, Hatch, Peach Bottom and Vermont Yankee; and four Westinghouse plants, Ginna, Kewaunee, Surry and Yankee Rowe. Prior to my Project Management assignments I worked as a technical reviewer in the Materials and Mechanical Engineering disciplines. I have participated in the review of over 75 nuclear power plants.

I have a BS in Civil Engineering (1950), Professional Engineers license (N.Y. 1954) and have been a member of the American Society of Mechanical Engineers since 1967. I have taken graduate courses in Nuclear Engineering (1961 and 1979) Mechanical Engineering (1962, 1963 and 1968), Mathematics (1964) and Environmental Engineering (1979). In addition, I have taken many AEC/NRC training courses.

My nuclear related experience began in 1952 on the Savannah River Project. Prior to my NRC employment I also worked in the aerospace applications of nuclear power and in the design phase, start-up testing and operation of the Fermi sodium cooled fast breeder reactor. I wrote and on November 15, 1973 delivered an invited paper at the IEEE Nuclear Power Systems Symposium entitled, "Reactor Coolant Leakage Detection Systems." I was the principal author of the Regulatory Guide on reactor coolant leakage detection systems and co-authored other Regulatory Guides.