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**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

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BEFORE THE COMMISSION

OFFICE OF
GENERAL
ADMINISTRATION

In the Matter of:)
)
Northeast Nuclear Energy Company)
)
(Millstone Nuclear Power Station,)
Unit No. 3))

Docket No. 50-423-LA-3

**NORTHEAST NUCLEAR ENERGY COMPANY'S ANSWER
OPPOSING THE PETITION FOR REVIEW OF LBP-00-26**

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NUCLEAR REGULATORY COMMISSION**

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I. INTRODUCTION

On November 13, 2000, Connecticut Coalition Against Millstone and Long Island Coalition Against Millstone (collectively, "CCAM/CAM" or "Petitioners") filed a Petition for Review ("Petition for Review") of the Atomic Safety and Licensing Board's ("Licensing Board") Memorandum and Order, LBP-00-26 ("Initial Decision"), dated October 26, 2000. Pursuant to 10 C.F.R. § 2.786(b)(3) of the Commission's regulations, Northeast Nuclear Energy Company ("NNECO") hereby responds in opposition to the Petition for Review.

II. BACKGROUND

On March 19, 1999, NNECO submitted a license amendment application ("application") seeking to increase the capacity of the Millstone Unit 3 spent fuel pool ("SFP"). The application proposes the placement of additional storage racks in the SFP, divided into 3 regions in which the fuel storage is subject to fuel burnup, enrichment, and

decay limits. CCAM/CAM filed a joint petition for leave to intervene on October 6, 1999. On February 9, 2000, the Licensing Board issued a Prehearing Conference Order, (LBP-00-02, 51 NRC 25), admitting three contentions. On February 22, 2000, NNECO invoked the hearing procedures of 10 C.F.R. Part 2, Subpart K, in accordance with 10 C.F.R. § 2.1109(a). The hearing procedures of Subpart K incorporate a strict threshold such that an issue may be designated for an adjudicatory hearing only if:

- there is a genuine and substantial dispute of fact which can only be resolved with sufficient accuracy by the introduction of evidence in an adjudicatory hearing; *and*
- the decision of the Commission is likely to depend in whole or in part on the resolution of the dispute. *See* 10 C.F.R. § 2.1115(b).

Any issues that do not meet these criteria are to be disposed of by the Licensing Board promptly after an oral argument. *Id.* at § 2.1115(a)(2).

On June 30, 2000, NNECO filed its "Summary of Facts, Data, and Arguments on Which NNECO Intends to Rely at the Subpart K Oral Argument" ("NNECO's Summary"). NNECO's Summary included the affidavits of 5 NNECO experts as well as 18 reference documents, creating a substantial record on the admitted contentions. Oral argument was conducted on July 19-20, 2000. In the Initial Decision, the Licensing Board determined that none of the issues raised by Petitioners met the criteria cited above, and decided the two contentions that are the subject of the Petition for Review in favor of NNECO.

The regulatory requirements at 10 C.F.R. § 2.786(b)(4) provide that the

Commission may grant a petition for review, in its discretion,¹ giving due weight to the existence of a substantial question with respect to the following considerations:

- (i) A finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding;
- (ii) A necessary legal conclusion is without governing precedent or is a departure from or contrary to established law;
- (iii) A substantial and important question of law, policy or discretion has been raised;
- (iv) The conduct of the proceeding involved a prejudicial procedural error; or
- (v) Any other consideration which the Commission may deem to be in the public interest.

As argued below, Petitioners have not set forth any issues that raise a *substantial question* with respect to any of the considerations listed above.

III. ARGUMENT

A. The Petitioners Have Shown No Basis For Review of Contention 4

Petitioners assert in Contention 4, and again in their Petition for Review, that the additional SFP racks proposed for Millstone Unit 3 would create an “undue and unnecessary risk to worker and public health and safety,” specifically because the proposal would involve a “complex array” of “administrative controls.” The Petitioners argue that these administrative controls would increase the potential for misplacements of fuel or for boron dilution events, thus increasing the likelihood of a criticality event in the SFP. Petitioners further assert that the Licensing Board’s conclusion regarding

¹ See 56 Fed. Reg. 29,403 (1991).

Contention 4 is contrary to the evidence and is clearly erroneous and not supported by the facts on record. *See* Petition for Review, at 3-4.²

The Licensing Board, in LBP-00-26, fully and fairly addressed Contention 4 based upon a substantial record and an oral argument conducted in accordance with 10 C.F.R. § 2.1113. *See* LBP-00-26, at 22-26. Consistent with 10 C.F.R. § 2.1115, the Licensing Board found that there is “no genuine and substantial dispute of fact or law that can only be resolved with sufficient accuracy by the introduction of evidence in an evidentiary hearing,” and resolved the contention in favor of NNECO. *Id.* at 26. The Petition for Review, while repeating many of the arguments made previously to the Licensing Board, fails to show any basis for an argument that the Licensing Board made a finding of material fact that is “clearly erroneous.”

NNECO's Summary provides substantial evidence to show that:

- NNECO's proposal is consistent with applicable NRC regulations, guidance, and industry practice;
- NNECO will employ procedures to control and verify fuel movements to assure that fuel will not be loaded into an improper region;
- The physical layout of the SFP further minimizes the likelihood of fuel being moved into a region for which the fuel is not qualified;
- Operating experience cited by the Petitioners does not support the claim of increased likelihood of a criticality event;
- Soluble boron provides added margin of safety and there is reasonable assurance that significant soluble boron dilution events will not occur; and
- Undisputed criticality calculations demonstrate the substantial margin of safety to accommodate fuel placement errors and boron dilution scenarios.

² We interpret the Petitioners' basis for Commission review regarding Contention 4 as 10 C.F.R. § 2.786(b)(4)(i). There is no argument specifically addressed to any of the other considerations of Section 2.786(b)(4).

See generally NNECO's Summary, at 10-41.

Based on the substantial record, including several expert affidavits, the Licensing Board found:

- Examination of the "fuel misplacement events" cited by the Petitioners indicated that the regulatory limit on reactivity of $K_{\text{eff}} < 0.95$ was not breached. *See* LBP-00-26, at 22-23.
- "Safety margins [relative to a criticality event] are maintained by the regulatory requirement that rack reactivity be less than 0.95, while the use of soluble boron adds defense-in-depth against an accidental criticality." *Id.* at 26.
- "Criticality calculations have used conservative assumptions, thereby introducing additional margin." *Id.*

The April 27, 1994 "incident" at Millstone Unit 3 cited in the Petition for Review (incorrectly cited, at page 5, as occurring April 26), was specifically addressed in the record.³ The event involved an aborted attempt to load fuel into a full cell. The Licensing Board correctly found that there was no mis-load and that in any event the cell was *in a region of the SFP in which the assembly was qualified*. *Id.* at 23-24. The reactor engineering logs introduced by the Petitioners before the Licensing Board and cited in the Petition for Review (at page 5-6) were also specifically considered by the Licensing Board. The Licensing Board correctly concluded that the problems reported in the logs concerning the fuel transfer system could not *affect the location of fuel in the SFP*. *Id.* at 26. In sum, the Licensing Board agreed with NNECO that the racks proposed for Millstone Unit 3 are safe, with an adequate safety margin, and based on a defense-in-depth approach. *Id.*

³ *See* NNECO's Summary, at 25-26 and Reference 8, at 3.

Moreover, in light of the substantial margins demonstrated by NNECO's *undisputed* criticality calculations (*see* NNECO's Summary, at 30-32), it is eminently clear that even in very unlikely cases involving postulated concurrent misplacements of multiple, limiting reactivity fuel assemblies and substantial dilution of the required soluble boron, *criticality in the SFP will not result*. The various assertions made by the Petitioners to the Licensing Board, and again in the Petition for Review, regarding alleged complexity, the potential for human error, minor fuel handling events and equipment problems, and past enforcement issues at Millstone are all of no significance in light of the criticality calculations and other evidence.

Recent Commission precedent demonstrates restraint in determining whether to exercise discretionary review, where the fact finder's determination relied heavily upon analysis of the parties' fact-specific submissions and arguments. For example, in denying discretionary review, the Commission recently held "[b]ecause the Presiding Officer has reviewed the extensive record in detail, with the assistance of a technical advisor, the Commission is generally disinclined to upset his findings and conclusions, particularly on matters involving fact-specific issues or where the affidavits or submissions of experts must be weighed."⁴ In a subsequent proceeding, the Commission held "[w]hile we certainly have discretion to undertake a *de novo* factual review where appropriate, we ordinarily 'attach significance to [the presiding officer's] evaluation of the evidence and . . . disposition of the issues,' and we do not 'second

⁴ Hydro Resources, Inc. (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 6 (1999).

guess' his or her reasonable findings.”⁵ The Petitioners have failed to make a showing that a finding of material fact was clearly erroneous, and therefore the Petition for Review on Contention 4 should be denied.

B. The Petitioners Have Shown No Basis For Review of Contention 6

Petitioners assert in Contention 6, and again in the Petition for Review, that NNECO's proposal for regional storage in the Millstone Unit 3 spent fuel pool violates General Design Criterion (“GDC”) 62 because, like many similar storage arrangements, it utilizes regions based on reactivity (*i.e.*, fuel enrichment, burnup, and decay time) limits. Petitioners argue that these limits are not “physical systems or processes” within the meaning of GDC 62 because they must be supported by “administrative controls.” Petitioners assert that the Licensing Board's conclusion regarding Contention 6 is contrary to law and that the Petition for Review presents substantial and important questions of law and policy. *See* Petition for Review, at 8, 10.⁶

The Licensing Board correctly characterized the admitted issue as a question of law, not fact: does GDC 62 permit a licensee to take credit for enrichment, burnup, and decay time limits? In LBP-00-26, the Licensing Board correctly concluded that the GDC “does not bar the types of administrative controls sought to be used by

⁵ Hydro Resources, Inc. (P.O. Box 15910, Rio Rancho, NM 87174), CLI-00-12, 52 NRC 1, 3 (2000), *citing* Louisiana Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 93 (1998, *quoting* Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 403-05 (1976).

⁶ Because Contention 6 was a legal, not factual, contention, we interpret the Petitioners' bases for Commission review regarding this Contention as 10 C.F.R. §§ 2.786(b)(4)(ii) and (iii).

NNECO.” LBP-00-26, at 43. The Licensing Board’s decision was expressly in accord with the recent decision of a separate Licensing Board addressing an identical contention related to a proposal at the Shearon Harris plant.⁷

There is no demonstrated basis for Commission review of this contention. Again, Petitioners merely re-argue the arguments made below. The Licensing Board’s decision is based on a thorough record, ample opportunity for argument, and sound reasoning. While it does not appear that the Commission has ever directly addressed this question in an adjudicatory context, the question is easily resolved based on the plain language of the rule. GDC 62 states:

Criterion 62 — Prevention of criticality in fuel storage and handling. Criticality in the fuel storage and handling system shall be prevented by physical systems or processes, preferably by the use of geometrically safe configurations.

NNECO’s proposed racks utilize physical systems and processes for criticality control.

As recited by the Licensing Board (LBP-00-26, at 39), the record below shows that there are four — and only four — methodologies for criticality control in spent fuel pools: (1) geometric spacing; (2) solid neutron absorbers (*e.g.*, Boral); (3) soluble absorbers (*e.g.*, boron in the SFP water); and (4) fuel reactivity limits. NNECO’s rack proposal involves all four. As determined by the Licensing Board, based on the record, each of these methodologies involves (at some level) a physical process to prevent criticality and is incorporated into a physical system. The approach proposed by NNECO is “inherently comprehended within the phrase ‘physical systems and processes’

⁷ See Carolina Power and Light Company (Shearon Harris Nuclear Power Plant), LBP-

that appears in GDC 62.” LBP-00-26 at 43. Because the approach is fully consistent with the plain language of the GDC, there is no substantial question warranting review.

Furthermore, nothing in the plain language of GDC 62 would lend support to the Petitioners’ argument that reactivity limits are not permitted simply because they require administrative measures in implementation (*e.g.*, surveillance requirements, verification procedures). The term adopted by the Petitioners to characterize the proposal — “administrative controls” — does not appear in GDC 62. At most, the GDC includes a *preference* for “geometrically safe configurations” over other means for preventing criticality in SFPs. But as recognized by the Licensing Board the preference “is just that: a preference, not a prohibition.” *Id.* at 45.

Likewise, Petitioners have made and can make no showing that the decision raises a substantial and important question of law, policy or discretion. The record below shows that NNECO’s use of reactivity limits and soluble boron is consistent with longstanding NRC guidance and industry practice. *Id.* at 40. Moreover, as a matter of policy, Congress has already declared in the Nuclear Waste Policy Act of 1982, 42 U.S.C. § 10101 *et seq.* (“NWPA”) that its purpose was to promote the “addition of new spent nuclear fuel storage capacity” at reactor sites (*id.* at § 10151(b)(1)) and directed federal agencies to “encourage and expedite the effective use of available storage” at reactor sites (*id.* at § 10152). Petitioners’ challenge to administrative controls used in high density storage is a clear attempt to frustrate the NWPA. Given the clear statutory mandate, there is no question of law, policy, or discretion that merits review.

00-12, 51 NRC 247, 255-69 (2000).

The Commission's rulemaking on 10 C.F.R. § 50.68 further affirmed that the Commission permits administrative measures such as fuel enrichment limits and fuel burnup limits for criticality control. While the rule related to the need for criticality monitors, the rulemaking history and the new regulation demonstrate that the Commission was aware of and endorsed measures such as fuel reactivity limits and soluble boron credited as methods to control criticality of spent nuclear fuel. *See, e.g.*, 10 C.F.R. § 50.68(b)(7), § 50.68(b)(4); *see also* 63 Fed. Reg. 63,127 at 63,128 and 63,130. Accordingly, the issue raised by the Petitioners in Contention 6 has no merit and warrants no further Commission review.

IV. CONCLUSION

For the reasons above, the Commission should deny the Petition for Review.

Respectfully submitted,



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Dated at Washington, D.C.
this 22nd day of November, 2000

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NORTHEAST NUCLEAR ENERGY COMPANY'S ANSWER OPPOSING THE PETITION FOR REVIEW OF LBP-00-26" in the captioned proceeding have been served upon the following by deposit in the United States mail, first class, this 22nd day of November, 2000. Additional e-mail service has been made this same day as shown below.

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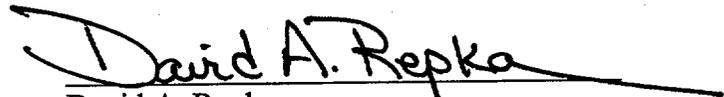
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