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January 8, 2001
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

In the Matter of:)
)
Northeast Nuclear Energy Company) Docket No. 50-423-LA-3
)
(Millstone Nuclear Power Station,)
Unit No. 3))

NORTHEAST NUCLEAR ENERGY COMPANY'S
RESPONSE IN OPPOSITION TO MOTION TO
REOPEN AND VACATE DECISION

I. INTRODUCTION

On December 18, 2000, the Connecticut Coalition Against Millstone and the Long Island Coalition Against Millstone (collectively, "the Coalitions") filed with the Atomic Safety and Licensing Board ("Licensing Board") a Motion to Reopen and Vacate Decision ("Motion to Reopen") with respect to Contention 4 in this proceeding. Contention 4 was previously decided in the Licensing Board's Memorandum and Order of October 26, 2000, LBP-00-26 ("Initial Decision"). In accordance with the Licensing Board's Order of December 19, 2000, and the Commission's Memorandum and Order of December 21, 2000 (CLI-00-25), Northeast Nuclear Energy Company ("NNECO") herein responds to and opposes the Motion to Reopen.¹

¹ As noted by the Commission in its Memorandum and Order, the Coalition's Motion to Reopen was improperly filed with the Licensing Board, given that the Initial Decision is presently before the Commission for consideration of the Coalition's November 13, 2000 Petition for Review. Nonetheless, in CLI-00-25 the Commission expressly remanded the Motion to Reopen to the Licensing Board, and directed the parties to meet the filing schedule set in the Licensing Board's December 19, 2000 Order. The Commission stated

II. BACKGROUND

A. Procedural History

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 proposed 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. On February 9, 2000, the Licensing Board issued a Prehearing Conference Order (LBP-00-02, 51 NRC 25), admitting three contentions. In Contention 4 the Coalitions asserted that the additional spent fuel 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 allegedly involve trading physical protection against criticality for a “complex array” of “administrative controls.” The Coalitions further asserted that past experience at Millstone suggests that NNECO’s ability to carry out such controls successfully is suspect. The Licensing Board, in its Prehearing Conference Order (LBP-00-02, slip op. at 19-20), adopted the following restatement of Contention 4:

The new set of administrative controls trades reliance on physical protection for administrative controls to an extent that poses an undue and unnecessary risk of a criticality accident, particularly due to the fact that the licensee has a history of not being able to adhere to administrative controls with respect, *inter alia*, to spent fuel configuration.

On June 30, 2000, in accordance with the procedures of 10 C.F.R. Part 2, Subpart K, NNECO filed its “Summary of Facts, Data, and Arguments on Which NNECO Intends to

that the parties need not address the question of whether the Licensing Board has jurisdiction to consider the Motion to Reopen. CLI-00-25, slip op. at 2, n. 4.

Rely at the Subpart K Oral Argument” (“NNECO’s Summary”). NNECO's Summary included the affidavits of 5 experts as well as 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 — including Contention 4 — meet the criteria of Subpart K for an issue to be designated for further evidentiary hearings.² The Licensing Board concluded, “[a]fter an exhaustive review of the entire record on this contention” (Initial Decision, slip op. at 22), that the Coalition's claim “that fuel misplacements do indeed occur is not disputed,” but that in the incidents in the industry cited by the Coalitions the reactivity limit (K_{eff}) of 0.95 was not breached. *Id.* In addition, the Licensing Board found that “[s]afety 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. And, the Licensing Board concluded, “NNECO has demonstrated that it can adhere to administrative controls, with adequate safety margin and defense-in-depth, without posing an

² 10 C.F.R. § 2.1115(a)(1)-(2) specifically provides that the presiding officer shall “[d]esignate any disputed issues of fact, together with any remaining issues of law, for resolution in an adjudicatory hearing,” and “[d]ispose of any issues of law or fact not designated for resolution in an adjudicatory hearing.” Under the Commission’s regulations, 10 C.F.R. § 2.1115(b), an issue may be designated for an adjudicatory hearing only if:

- there is a genuine and substantial dispute of fact; *and*
- the dispute can be resolved with sufficient accuracy only through introduction of evidence at an adjudicatory hearing; *and*
- the NRC’s ultimate decision is likely to depend in whole or in part on the resolution of the dispute.

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

undue or unnecessary risk to plant workers or the public." *Id.* The Licensing Board decided Contention 4, the subject of the Motion to Reopen, in favor of NNECO.³

B. Millstone Unit 1 Report

The Motion to Reopen is premised upon an issue regarding two fuel pins at Millstone Unit 1 that were recently determined to be unaccounted for, based upon a review of Unit 1 records. NNECO first disclosed its findings to the NRC in mid-November as reflected in the NRC Weekly Information Report specifically cited by the Coalitions. Subsequently, on December 14, 2000, NNECO made a report on this matter to the NRC in accordance with 10 C.F.R. § 20.2201(a)(1)(ii) (Event Number 37596).

To summarize, as stated in the attached Affidavit of Joseph J. Parillo, the two fuel pins at issue were removed from a Millstone Unit 1 fuel assembly in October 1972 to allow General Electric (the fuel vendor) to examine the fuel to study the effects on the fuel of a saltwater intrusion into the reactor vessel at Unit 1. After the examination, the two pins could not be reinserted into the fuel assembly. The records indicate that the two pins were subsequently stored separate from the fuel assembly in a storage container in the Millstone Unit 1 spent fuel pool.

As part of the ongoing decommissioning of Unit 1, NNECO has been conducting records reviews for material in the Unit 1 spent fuel pool. During those reviews, NNECO identified a discrepancy in the paperwork: records do not account for the two pins beginning in

³ The Coalitions did not file any request for stay of the Initial Decision within the time prescribed by 10 C.F.R. § 2.788. The Licensing Board's Initial Decision was immediately effective and, in the absence of any stay, the requested license amendment has since been issued.

September 1980. Upon discovery of the discrepancy, NNECO began further records reviews and examinations in the Unit 1 spent fuel pool. Those reviews are currently ongoing with full knowledge and oversight of the NRC. Contrary to the repeated implications of the Coalitions, there has been no bad faith or attempt to conceal the issue. NNECO timely made the December 14 event notification to the NRC related to the unaccounted for licensed material. Indeed, the Coalitions, in the Motion to Reopen, acknowledge that NNECO disclosed the event to the NRC during the week of November 24, 2000, and that they have access to the NRC documentation.⁴

⁴ The Coalitions claim that NNECO failed to supplement its prior responses to Interrogatory F-1 in this case. However, in fact, NNECO has followed appropriate regulatory processes to inform the NRC and the public of the Unit 1 issue. Moreover, for the reasons discussed below, NNECO does not construe the Unit 1 issue as either material or relevant to Contention 4 or within the scope of the discovery rulings in this case. And, in any event, any duty to supplement discovery responses is long expired. At least one NRC licensing board has specifically held that a duty to supplement does not continue for perpetuity, but rather, "until the period of discovery is closed...." Texas Utilities Electric Company, et al. (Comanche Peak Steam Electric Station, Units 1 and 2); LBP-85-41, 22 NRC 765, 768 (1985). The duty to supplement discovery responses in federal courts is governed by Fed.R.Civ.P 26(e), which states that "a duty to supplement responses may be imposed by order of the court, agreement of the parties, or *at any time prior to trial* through new requests for supplementation of prior responses." (Emphasis added.) Analogously, any duty to supplement discovery in this matter certainly would not extend beyond the written filings and oral argument, much less beyond the decision issued in October.

III. DISCUSSION

A. Commission Standards for a Motion to Reopen

The Commission's standards for reopening a closed record are codified at 10 C.F.R. § 2.734. Specifically, under Section 2.734(a), a motion to reopen a closed record will not be granted unless the following criteria are satisfied:

- (1) The motion must be timely, except that an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented.
- (2) The motion must address a significant safety or environmental issue.
- (3) The motion must demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.

Additionally, under Section 2.734(b), a motion to reopen:

. . . must be accompanied by one or more affidavits which set forth the factual and/or technical basis for the movant's claim that the criteria of paragraph (a) of this section have been satisfied. Affidavits must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised. Evidence contained in affidavits must meet the admissibility standards set forth in § 2.743(c). Each of the criteria [of Section 2.734(a)] must be separately addressed, with a specific explanation of why it has been met. [Emphasis supplied.]

These standards and requirements codified in the Commission's Rules are based on a substantial body of NRC case law. It has often been stated that a proponent of a motion to reopen has a "heavy" or "difficult" burden. See, e.g., Kansas Gas & Electric Co. (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 338 (1978); Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-359, 4 NRC 619, 620 (1976); Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-88-3, 28 NRC 1, 3 (1988). As discussed below, the Coalitions' Motion to Reopen does not comply with the requirements of Section 2.734(b),

does not cite or address the regulatory standards of Section 2.734(a), and completely fails to carry the heavy burden of demonstrating that the Licensing Board's decision on Contention 4 should be vacated and the record reopened.⁵ Indeed, NNECO demonstrates through the attached Affidavit of Mr. Parillo (who previously provided testimony on Contention 4) that the standards of Section 2.734(a) are clearly not satisfied.

B. The Motion to Reopen is Inadequate on its Face

The Motion to Reopen first must fail because, on its face, it does not acknowledge — much less meet — the Commission's unambiguous requirements. In accordance with 10 C.F.R. § 2.734(b), a motion to reopen must be accompanied by one or more affidavits which set forth the factual and/or technical bases for the movant's claim that the criteria of 10 C.F.R. § 2.734(a) have been satisfied. The regulation further requires that the affidavits must be given by competent individuals with knowledge of the facts alleged or by experts in the disciplines appropriate to the issues raised. And, under Section 2.734(b), each of the criteria of Section 2.734(a) must be separately addressed, with a specific explanation of why it has been met. The Coalitions have not carried their heavy burden to support reopening; the Coalitions have not even picked up the first pebble.

⁵ The Coalitions do little more than trumpet the Millstone Unit 1 report and cite an Immigration and Naturalization Service ("INS") case that deals with a Board of Immigration Appeals' ability to reopen a case in which it had rendered a decision based on notice to the prospective deportee and an Interstate Commerce Commission ("ICC") case that deals with the acceptability of reopening rail abandonment proceedings based on a new matter. See Motion to Reopen at 2. In light of the NRC's clear regulations on the reopening burden, and the substantial NRC case law, the cited INS and ICC cases have no relevance here.

The regulatory requirement requiring affidavits to support a motion to reopen a closed record could not be more explicit. One NRC Licensing Board, in considering the reopening standard, recognized that "[t]he provisions of section 2.734(b) leave no place to hide; '[t]he motion must be accompanied by one or more affidavits' Intervenor's motions, to the extent that they rest on a factual foundation should be rejected out-of-hand precisely as the Appeal Board in ALAB-915 directed." Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), LBP-89-38, 30 NRC 725, 734 (1989), aff'd on other grounds, ALAB-949, 33 NRC 484 (1991). In ALAB-915, the Appeal Board had denied a motion to reopen, and in doing so summarized Commission precedent as follows: "[t]he Commission expects its adjudicatory boards to enforce the section 2.734 requirements rigorously — i.e., to reject out-of-hand reopening motions that do not meet those requirements within their four corners" Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-915, 29 NRC 427, 432 (1989), citing, Louisiana Power & Light Co. (Waterford Steam Electric Station, Unit 3), CLI-86-1, 23 NRC 1 (1986); Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), CLI-86-7, 23 NRC 233 (1986), aff'd sub. nom., Ohio v. NRC, 814 F.2d 258 (6th Cir. 1987). Without an affidavit, and without a substantive explanation of why each of the Section 2.734(a) standards has been met (as required by Section 2.734(b)), there is no choice but to deny the Motion to Reopen.

In the Statements of Consideration accompanying the final rule for 10 C.F.R. § 2.734, the Commission stated that "[t]o ensure timely and proper consideration of motions to reopen, the Commission is requiring that motions to reopen be accompanied by affidavits setting

forth with particularity the bases for the movant's claims."⁶ Reopening a record in a closed administrative proceeding is an extraordinary step, creating substantial uncertainty in the administrative process.⁷ In this context, the purpose of the Commission's requirement is to assure that anyone who seeks to reopen has a sound factual and technical basis to support the claim that the record should be reopened. The importance of the affidavit requirement cannot be understated. Technical expertise is required from the movant to provide the link (by a competent individual or expert in the discipline) from the new information relied upon to the safety significance of that information and its importance in the context of the issues and the record in the case. Without admissible, expert testimony providing that link, a movant cannot hope to demonstrate that a materially different result would be or would have been likely.

The Commission has emphasized its expectations that parties in its proceedings will meet their obligations and, more specifically, will meet their obligation "to ensure that their arguments and assertions are supported by appropriate and accurate references to the legal authority and factual basis"⁸ In the absence of the affidavits and the required explanations of why the Section 2.734(a) standards to reopen have been met, there is no factual basis on

⁶ Criteria for Reopening Records in Formal Licensing Proceedings, 51 Fed. Reg. 19,535, 19539 (May 30, 1986), as corrected, 51 Fed. Reg. 23,523 (June 30, 1986); see also 51 Fed. Reg. at 19,537, col. 1-2.

⁷ See, e.g., ICC v. Jersey City, 322 U.S. 503, 514-15 (1944), accord Bowman Transportation v. Arkansas-Best Freight, 419 U.S. 281, 294-95 (1974).

⁸ Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 21-22 (1998).

which to conclude that the reopening standards are satisfied. The Motion to Reopen must be denied.⁹

C. The Criteria for Reopening are Not Satisfied

Notwithstanding the complete lack of supporting expertise, the Motion to Reopen must also be denied on substantive grounds. Focusing only on the third reopening criterion, the Millstone Unit 1 fuel pin issue recently identified would not, and would not have been likely to, result in a materially different result in this case. Further proceedings on Contention 4 are still not warranted under the very high threshold of 10 C.F.R. § 2.1115(b) and the contention must still be decided on the facts in NNECO's favor.

1. The Elements of Contention 4

Contention 4 asserted that the new Unit 3 storage racks and storage system trade reliance on physical protection against a criticality accident for administrative controls, to an extent that poses an undue and unnecessary risk of a criticality event. Thus, there are three elements to Contention 4, all without merit: 1) the "complexity" of the new racks and the implementing administrative controls; 2) NNECO's ability to implement administrative controls related to regional storage based on reactivity limits; and 3) the potential that failures of those controls could lead to a criticality in the Unit 3 spent fuel pool. The Unit 1 issues does not bear on any of these three elements. In fact, the Unit 1 issue relates to unusual circumstances that appear to have occurred in 1980, and that have no bearing on either the "complexity" of the Unit

⁹ The Unit 1 fuel pin matter is a current regulatory matter with obvious NRC compliance implications. The facts are not completely developed and the matter is not yet resolved. Like any ongoing regulatory matter, the Coalitions may seek to have their concerns addressed through the Commission's 10 C.F.R. § 2.206 process.

3 storage system or the administrative controls used to implement the new Unit 3 racks and revised storage regions. Likewise, the historic Unit 1 issue has no bearing on NNECO's current ability to implement administrative controls related to movements of fuel assemblies and regional storage. And, perhaps most decisively, there is no basis whatsoever to support a conclusion that the Unit 1 issue is material to the issue of a potential criticality event at Unit 3.

The materiality of the Unit 1 matter to the issues raised by Contention 4 and the record in this case is addressed in the attached Affidavit of Joseph J. Parillo. Mr. Parillo is an experienced nuclear engineer with knowledge of the Unit 1 issue, the procedures used to move and store spent fuel at Unit 3, the procedures related to storage of fuel pins at Unit 3, and nuclear criticality analyses. He has previously testified in this proceeding on Contention 4 and has a detailed understanding of the issues and the record in the case. As discussed in his affidavit, the unaccounted for Unit 1 fuel pins cannot affect the outcome of Contention 4. The Unit 1 matter does not support any of the three elements of Contention 4.

2. *The "Complexity" of the Unit 3 Storage System*

First, the Unit 1 issue does not have any bearing on the "complexity" of the new Unit 3 racks and the revised spent fuel storage pattern, at least as the racks and associated reactivity limits compare to the previously existing racks and reactivity limits. The Unit 1 report is not new information that in any way alters the design of the Unit 3 storage system. Mr. Parillo continues to maintain that the new racks and the storage regions based on reactivity limits are not "complex." Parillo Affidavit, ¶ 11. Moreover, the Unit 1 issue does not in any way change the fact that proven procedures will be used at Millstone Unit 3 to control movements of spent fuel assemblies to the correct storage locations. *Id.* at ¶¶ 9, 11-12. Likewise, the Unit 1 issue does not change the physical layout of the Unit 3 regions, which serves to minimize any potential that

a fuel assembly could be moved to a region where it is not qualified from a criticality perspective. *Id.* at ¶ 11. Accordingly, the new information does not support the contention that the new Unit 3 system is more "complex" than the previous system.

3. *Implementation of Administrative Controls*

To the extent that the Unit 1 issue may be argued to reflect on NNECO's ability to implement administrative controls related to fuel storage based on reactivity limits, it is equally unconvincing evidence. First, the Unit 1 issue relates to events of the early 1970's through 1980. In the current proceeding, as discussed in its Order (Discovery Rulings, 5/26/00 Telephone Conference), dated June 8, 2000, the Licensing Board recognized that old administrative control issues at Millstone are of little evidentiary value in this proceeding. In ruling upon NNECO's request for protective order, the Licensing Board restricted certain discovery requests to experience since either the last refueling outage or restart from the extended Millstone recovery shutdown in the mid-1990's, whichever is earlier. The Licensing Board also restricted evidence to events at Unit 3. *See, e.g.,* Discovery Ruling, at 4. In its Initial Decision, the Licensing Board also observed with respect to a 1994 incident that the event "occurred prior to the 1996-98 shutdown and restart of the reactor and thus does not necessarily reflect on the Licensee's current capability for carrying out administrative controls." Initial Decision, slip op. at 24. For similar reasons, the Unit 1 issue should be dismissed out-of-hand in the present context.¹⁰

¹⁰ NNECO's Summary, at 32-33, and the affidavits cited therein, discussed the substantial Millstone recovery program and related NRC oversight leading to restart of Unit 3 in 1998. If the issue in Contention 4 is NNECO's current ability to manage complex operations and administrative controls, the Licensing Board should also take notice of the fact that Millstone Unit 3 is presently in a coastdown to a scheduled refueling outage after over 500 consecutive days of operation and after running at a record 99.9% capacity factor for calendar year 2000. There can really be no more compelling evidence of

Second, the issue at Unit 1 does not in any event bear on the issue of the administrative controls used to implement the new Unit 3 racks and the reactivity limits. The Unit 1 situation involves two fuel pins stored externally from fuel assemblies. Parillo Affidavit, ¶ 12. In contrast, Contention 4 addresses the ability of NNECO to manage spent fuel assemblies and to implement regional storage based upon reactivity limits that apply to the intact assemblies. The substantial record compiled in this matter addresses the procedures for handling spent fuel assemblies and for verifying their appropriate placement in spent fuel storage locations. See NNECO Summary, at 19-27. An issue regarding the handling and paperwork related to two fuel pins removed from a Unit 1 fuel assembly under unusual circumstances in the 1970's has little bearing on the prospective handling of intact Unit 3 fuel assemblies. See Parillo Affidavit, ¶ 12. As stated by Mr. Parillo in his attached affidavit, notwithstanding the Unit 1 report there still has never been a case at any Millstone unit where a fuel assembly was placed in a storage region for which it was not qualified. Id. at ¶ 10.

Mr. Parillo also explains in his attached affidavit how fuel pins are tracked and stored at Millstone Unit 3. Parillo Affidavit, ¶¶ 13-14. There is only one fuel pin currently stored at Unit 3 separate from a fuel assembly. That fuel pin, removed from a reconstituted assembly, is stored in a designated Fuel Storage Basket ("FSB"). The FSB is stored in the racks. With only one fuel pin in the FSB, based on criticality considerations the FSB can be stored safely in any region of the spent fuel pool. Id. at ¶¶ 15-16. The new racks do not change any procedures in regard to handling the FSB, and do not in any way increase the likelihood of an

improvement in performance at Millstone. In addition, the discovery of the old Unit 1 issue is in itself also indicative of the standards currently being applied at Millstone.

administrative error or a criticality event. At bottom, the administrative control problem reflected in the Unit 1 issue is no different from other examples of human errors that the Coalitions have cited in the past (e.g., the loss of a spacecraft in 1999, other historic Unit 1 refueling issues). It is an example that shows that errors can occur. However, there is no nexus ever established between that broad truism and the specific procedures at issue in Contention 4 and the specific Unit 3 racks that are the subject of this proceeding.¹¹

4. Potential Reactivity Impacts

The focus of Contention 4 was and must remain the potential for an inadvertent criticality in the Unit 3 spent fuel pool — that is, the issue is whether added complexity and increased potential for error allegedly created by the regional storage pattern could lead to a criticality event. The evidence in this case related to criticality effects of postulated fuel misplacements includes the uncontroverted criticality calculations that NNECO placed in evidence. See NNECO's Summary, at 16, 30-32. These unrefuted calculations overwhelm any past fuel handling incidents at Millstone Unit 3, Unit 1, or elsewhere, and clearly establish the substantial margin-of-safety that exists in the Unit 3 spent fuel pool. NNECO's prior calculations show that hypothetical misplacement of multiple, intact fuel assemblies — far more reactive than the Unit 1 pins now at issue or the Unit 3 FSB with one fuel pin — would not lead to a criticality event in the Unit 3 spent fuel pool. See NNECO's Summary, at 31. Moreover, Mr. Parillo specifically points out in his attached affidavit that the reactivity effect of the Unit 3 FSB, if

¹¹ If the issue of handling fuel pins external to fuel assemblies were considered as a new late-filed contention (indeed, it is an issue outside the scope of Contention 4), it would be inadmissible in this proceeding because it is beyond the scope of the new rack proposal. There is no change in this area being introduced by the license amendment at issue.

misplaced, is bounded by the licensing basis analysis of a misplaced fresh fuel assembly, and that the FSB can be stored in any region of the Unit 3 pool. Parillo Affidavit, ¶ 15.

5. Conclusion on Criterion 3

It is the proponent of a motion to reopen that bears the responsibility for establishing that the standards for reopening are met.¹² With respect to the third criterion of the three-part reopening standard, the proponent must establish that a materially different result would be or would have been likely had the material submitted in support of the motion been considered initially. See 10 C.F.R. § 2.734(a)(3). The Coalitions never substantively address either the safety significance of the issue they raise, as required by Section 2.734(a)(2), or its relationship to the record and the outcome of the proceeding, as required by Section 2.734(a)(3). The Coalitions have not presented any evidence related to the two Unit 1 fuel pins that could change the outcome of this proceeding with respect to Contention 4. Beyond inappropriate and unwarranted suggestions of bad faith, the Coalitions merely assert that the issue "is clearly material to these proceedings." See Motion to Reopen at 3. But there is no more, and it is not. In light of the discussion above, Mr. Parillo's affidavit attached, and the entire record in this case, the Coalitions have certainly not met their heavy burden and cannot prevail on the Motion to

¹² See, e.g., Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 1), CLI-85-7, 21 NRC 1104, 1106 (1985); Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 2), ALAB-486, 8 NRC 9, 21 (1978). Even though a matter is timely raised and involves significant safety considerations, no reopening of the evidentiary hearing will be required if the affidavits submitted in response to the motion demonstrate that there is no genuine unresolved issue of fact or for some reason will have no effect upon the outcome of the licensing proceeding. Commonwealth Edison Co. (Byron Nuclear Power Station, Units 1 and 2), LBP-83-41, 18 NRC 104, 109 (1983); Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), LBP-89-4, 29 NRC 62, 73 (1989), aff'd on other grounds, ALAB-918, 29 NRC 473 (1989).

Reopen — the "new evidence" could not affect the outcome of the Licensing Board's decision on Contention 4.

IV. CONCLUSION

For the reasons above, the Licensing Board should deny the Motion to Reopen.

Respectfully submitted,



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Dated at Washington, D.C.
this 8th day of January, 2001

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:)
)
Northeast Nuclear Energy Company) Docket No. 50-423-LA-3
)
(Millstone Nuclear Power Station,)
Unit No. 3))

AFFIDAVIT OF JOSEPH J. PARILLO

I, Joseph J. Parillo, being duly sworn, state as follows:

1. I am a nuclear engineer employed by Northeast Utilities (NU). I am currently a Senior Engineer in the Nuclear Analysis Section at Millstone Nuclear Power Station (Millstone).
2. I previously testified in this proceeding on the three contentions raised by the Connecticut Coalition Against Millstone and the Long Island Coalition Against Millstone (Intervenors) and admitted by the Atomic Safety and Licensing Board (Licensing Board), including Contention 4. My testimony on Contention 4 was in an affidavit included in the filing made by Northeast Nuclear Energy Company (NNECO) on June 30, 2000.
3. My professional qualifications and experience were described in my prior affidavit in Paragraphs 3 and 4. In addition, I included a statement of professional qualifications as Attachment A to that affidavit. As described there, I hold a Bachelor of Science degree in Nuclear Engineering from Rensselaer Polytechnic Institute, which I received in 1976. I have been employed by NU since that time, and have worked

principally in the areas of reactor engineering, reactor core design, fuel storage, and nuclear criticality analyses. I am also familiar with the process used to manage fuel movements at Millstone, including movements into and out of the spent fuel pools.

4. I have reviewed the Memorandum and Order (LBP-00-26) issued by the Licensing Board on October 26, 2000. I have also read and considered the Intervenor's Motion to Reopen and to Vacate Decision (Motion to Reopen) filed with the Licensing Board on December 18, 2000. The purpose of this affidavit is to respond to the issues raised in the Motion to Reopen .

5. The Motion to Reopen is premised upon an issue regarding two fuel pins at Millstone Unit 1 that were recently determined to be unaccounted for, based upon a review of Unit 1 records. On December 14, 2000, NNECO made a telephone report on this matter to the NRC in accordance with 10 C.F.R. § 20.2201(a)(1)(ii) and 10 C.F.R. § 50.72(b)(2)(vi). For the reasons discussed below, the issue of two fuel pins at Millstone Unit 1, as identified and reported by NNECO in December 2000, is not relevant to the issues raised in this proceeding and could not affect the outcome of the Licensing Board's prior decision.

6. To summarize, the two Unit 1 fuel pins at issue were removed from a Millstone Unit 1 fuel assembly in October 1972 to allow General Electric (the fuel vendor) to examine the fuel to study the effects on the fuel of a saltwater intrusion into the reactor vessel at Unit 1. The two pins from the fuel assembly could not be reinserted into the fuel assembly. The records indicate that the two pins were stored separately in the Millstone Unit 1 spent fuel pool. As part of the ongoing decommissioning of Unit 1, NNECO has been conducting reviews of records for materials in the Unit 1 spent fuel

pool. During those reviews NNECO identified a discrepancy in the paperwork: records do not account for the two pins beginning in September 1980. Upon discovery of the discrepancy, NNECO began further records reviews and examinations in the Unit 1 spent fuel pool. Those reviews are currently ongoing.

7. This Unit 1 issue has no conceivable bearing on Contention 5, which was resolved by a license condition confirming NNECO's commitment regarding verification of soluble boron in the Millstone Unit 3 spent fuel pool. Likewise, the Unit 1 issue has no conceivable bearing on Contention 6, which is a legal issue surrounding the permissibility under General Design Criterion 62 of reactivity limits in a system of regional storage for fuel assemblies. Therefore, I have analyzed the Motion to Reopen in terms of Contention 4 in this proceeding.

8. The focus of Contention 4 was on the alleged "complexity" of NNECO's three-region storage system for Unit 3, the alleged potential that the "complexity" would lead to a failure to implement the administrative controls associated with the storage system, and the alleged potential that such a failure of administrative controls could lead to a nuclear criticality event in the Unit 3 spent fuel pool. As admitted by the Licensing Board, the contention was:

The new set of administrative controls trades reliance on physical protection for administrative controls to an extent that poses an undue and unnecessary risk of a criticality accident, particularly due to the fact that the licensee has a history of not being able to adhere to administrative controls with respect, inter alia, to spent fuel pool configuration.

9. Among other points, in my prior affidavit I made the following points regarding this contention:

- The new Unit 3 storage racks and regional storage system do not add significant complexity to the spent fuel storage system at Unit 3. The administrative procedures previously in place to meet the previous burnup vs. enrichment curve are simply replicated for the new regions, with the minor addition of fuel decay time for one region.
- The location of the racks in the spent fuel pool and the design criteria used in the rack criticality analyses were also thought out in advance to minimize both the impact and likelihood of fuel misplacement events.
- At Millstone Unit 2 and Millstone Unit 3, NNECO has had extensive experience with the use of fuel burnup vs. enrichment curves. Millstone Unit 2 has had fuel burnup vs. enrichment curves in the Technical Specifications (TS) since 1986. Millstone Unit 3 has had a fuel burnup vs. enrichment curve in the TS since 1990. To date, there has never been a case at either Millstone Unit 2 or 3 where a fuel assembly was placed into a fuel storage region for which it was not qualified. This experience encompasses 15 years at Millstone Unit 2 and 10 years at Millstone Unit 3.
- Both the licensing basis criticality calculations and certain beyond-design-basis criticality calculations prepared for this proceeding

demonstrate the substantial margin-of-safety in the spent fuel pool. Those calculations show that for various bounding events involving dilution of soluble boron and/or mis-loading of one or more complete fuel assemblies, the hypothetical failure of administrative controls would not result in a nuclear criticality.

10. The issue at Millstone Unit 1, involving an accountability failure that appears to have occurred in 1980, does not impact any of these points or otherwise support Contention 4. The Unit 1 issue does not relate to the "complexity" of the Unit 3 storage system; there still has never been a case at Millstone where a fuel assembly was placed into a fuel storage region for which it was not qualified; and the defense-in-depth and margin-of-safety relative to a nuclear criticality accident remain the same.

11. With respect to the alleged "complexity" of the new Unit 3 storage racks and supporting administrative controls, my prior testimony stands. The use of regional storage for fuel assemblies based on reactivity (enrichment and burnup) limits is not new at Millstone, and is not unduly complex. Procedures for the re-configured spent fuel pool will assure that when fuel assemblies are placed in rack locations they are placed in a region for which they are qualified. Likewise, the Unit 1 experience does not undermine the fact that the physical layout of the Unit 3 racks works to minimize the likelihood that fuel assemblies would be placed in a region where they would not be qualified.

12. With respect to NNECO's fuel handling procedures and its ability to implement administrative controls relevant to the Unit 3 storage system, the Unit 1 issue relates to different circumstances than what is addressed in Contention 4. Millstone Unit 1 does not have multiple storage regions and all Unit 1 spent fuel storage locations are

equivalent for criticality control purposes. The Unit 1 issue relates to handling fuel pins *removed* from fuel assemblies. The handling of two pins at Unit 1, disassembled from the fuel assembly, does not involve, and does not equate to, a situation in which a fuel *assembly* has been moved to a location for which it is not qualified (for criticality purposes). And, to the extent that a handling or paperwork error occurred (and this is a matter still being investigated), it appears to have occurred around the middle of 1980.

13. A typical Millstone Unit 3 fuel assembly contains 264 fuel pins. At Unit 3, any fuel pins permanently removed from a fuel assembly, when an assembly is reconstituted, would be stored in a container called the Fuel Storage Basket (FSB). The Unit 3 spent fuel pool currently contains only 1 fuel pin which is stored in the FSB. The location of this individual fuel pin is tracked by procedure, similar to how a fuel assembly is tracked.

14. The purpose of the FSB is to act as a storage location for defective fuel pins. There is only 1 FSB for Unit 3. (The new racks do not change that fact.) The FSB is an array of 52 tubes configured in a specified center-to-center pitch of the tubes. The size of the FSB is about the size of a fuel assembly. The FSB is stored in the fuel storage racks in the same way as a fuel assembly is stored. The one fuel pin currently stored in the FSB is a failed fuel pin which was removed from a fuel assembly after one cycle of operation, and placed into the FSB in about 1995.

15. Since the FSB contains only 1 fuel pin at this time, its effect on K_{eff} of the spent fuel pool is negligible. This is confirmed by KENO Va calculations. As a result, the FSB may be stored in any open fuel storage location in the Unit 3 spent fuel pool. While the FSB may be moved to different fuel storage locations in the spent fuel pool, the

individual fuel pin in the FSB cannot be easily removed from the FSB. It is not credible that the pin could be inadvertently removed from the FSB during FSB handling, due to the fact that the FSB handling tool cannot contact the stored fuel pin. A fuel pin stored in the FSB can only be removed from the FSB with special tooling, which is not currently available on-site. This special tooling would only be available during procedurally controlled evolutions, such as the one that initially stored the pin into the FSB. Hence, the individual fuel pin can only be moved as the FSB is moved. Should the FSB be misplaced or dropped, the reactivity effect is negligible and certainly bounded by the analyzed licensing basis misplacement or dropping of a fresh 5 weight-percent U-235 fuel assembly.

16. For both the prior spent fuel storage regions or the new regions that incorporate the new Unit 3 racks, considering the above criticality considerations, there are no special or additional Millstone Unit 3 administrative requirements relating to criticality control due to the storage of the one fuel pin in the FSB. *The FSB can be stored in any region of the spent fuel pool.*

17. If, in the future, additional fuel pins are required to be stored in the FSB, the design change and procedure change processes would identify whether any restrictions would be required for the FSB, with regard to which regions of the spent fuel pool it can be stored in. If, as a result, the FSB could be stored only in certain regions of the spent fuel pool, the administrative controls are still not changed. The FSB would be treated as any other fuel assembly which can only be stored in certain regions of the spent fuel pool. That is to say no new procedure or administrative requirements would be necessary, other than to add the FSB to the list of which fuel assemblies are qualified for

storage in Region 1, 2 or 3.

18. The foregoing statements are true and correct to the best of my knowledge and belief.



Joseph J. Parillo

Sworn and subscribed to before me on this 5th day of January, 2001.



Notary Public

My Commission expires:
FEBRUARY 28, 2001



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:)
)
Northeast Nuclear Energy Company) Docket No. 50-423-LA-3
)
(Millstone Nuclear Power Station,)
Unit No. 3))

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NORTHEAST NUCLEAR ENERGY COMPANY'S RESPONSE IN OPPOSITION TO MOTION FOR STAY" in the captioned proceeding have been served upon the following by deposit in the United States mail, first class, this 8th day of January, 2001. Additional e-mail service has been made this same day as shown below.

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A handwritten signature in black ink that reads "David A. Repka". The signature is written in a cursive style with a long horizontal line extending to the right from the end of the name.

David A. Repka
Counsel for NNECO

January 8, 2001