UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

DOCKETED 05/23/00

Before Administrative Judges:

SERVED 05/23/00

Charles Bechhoefer, Chairman
Dr. Richard F. Cole
Dr. Charles N. Kelber

In the Matter of NORTHEAST NUCLEAR ENERGY COMPANY (Millstone Nuclear Power Station, Unit No. 3; Facility Operating License NPF-49)	Docket No. 50-423-LA-3 ASLBP No. 00-771-01-LA May 23, 2000

MEMORANDUM
(Questions for Parties)

As set forth in our Memorandum and Order (Schedules for Proceedings), dated April 19, 2000, detailed written summaries in this 10 C.F.R. Part 2, Subpart K proceeding are scheduled to be filed by Friday, June 30, 2000, and an oral argument is scheduled for July 19-20, 2000. See 10 C.F.R. §§ 2.1109, 2.1113. The Atomic Safety and Licensing Board hereby requests that parties, in submitting their written summaries, and at oral argument, address the following questions relative to the three contentions that have been admitted to this proceeding. Although the questions are addressed in particular to the parties indicated in each question, all parties are invited to comment on each question if they so choose.

A. Contention 4 (fuel assembly misplacement):

1. Is there any statistical basis for asserting that the likelihood of fuel assembly misplacement is either high or low? If so, what is the basis and what are the statistics? Are this basis and the accompanying statistics applicable to the Millstone-3 reactor or must other factors be taken into account? If there is no such basis, how do you decide on the likelihood of fuel assembly misplacement? (Intervenors, Staff)

2. How are fuel assemblies identified initially and during subsequent fuel element transfers? (Licensee)

3. If there is a difference between two observers as to the identity of a fuel assembly, how is that difference resolved? (Licensee)

4. When assigning burn-up plus decay time administrative controls, how are the dividing lines between fuel assemblies of various burn-ups decided, and how are uncertainties in burn-up treated? (Licensee, Staff)

5. Can it be stated that unirradiated fuel planned for use in the Millstone-3 plant has the highest level of reactivity worth as compared with Millstone-3 irradiated fuel? If not, what level of fuel burnup or combination of time of decay and burnup provides the highest level of reactivity worth? (Licensee)

6. Please describe the difference between Wt% U-235 and W/o U-235 (% weight by volume). What, if any, significance is there to any differences? (Licensee)

7. With respect to the determination of storage placement of fuel assemblies, can it be said that Figures 4.1.1, 4.1.2, and 4.1.3 of the non-proprietary version of the Licensee's license-amendment application, dated March 19, 1999, are the principal vehicles by which placement determination is made? If not, what other considerations are there? (Licensee)

B. Contention 5 (borated water):

1. Please describe the chemical form and/or compound used to create and maintain soluble boron concentrations in the spent fuel pool. Please provide information as to its solubility over the range of possible conditions, particularly temperature, in the spent fuel pool. Are there any volumes in the pool cold enough to cause the boron to come out of solution? (Licensee)

2. How is the boron concentration measured? How accurate is the test for boron concentration? (Licensee)

3. How frequent a check on boron concentration is needed to give adequate assurance of boron concentration? What determines the needed frequency? (All parties)

4. During the time when boron concentrations have been measured every 72 hours, what is the largest change observed in boron concentration? (Licensee)

5. What are the record-keeping and reporting requirements with respect to boron surveillance and its concentration? (Licensee)

6. During the period when fuel is being transferred from the reactor to the spent-fuel pool and the waters are commingled, how is the boron concentration in the spent-fuel pool affected? (Licensee)

C. Contention 6 (GDC 62, etc.):

1. Referring to 10 C.F.R. §50.68(b), what is your definition of reactivity? (Relate this to standard textbook definitions in, e.g., Hetrick, "Dynamics of Nuclear Reactors," Glasstone & Edlund, "The Elements of Nuclear Reactor Theory,: etc.) (All parties)

2. What is the meaning of the phrase "maximum fuel assembly reactivity" used in 10 C.F.R. § 50.68(b)(4)? How is the maximum fuel assembly reactivity measured? (All parties)

3. When was credit for burn-up first considered in spent fuel pools? Were the considerations involved discussed with the ACRS or the Commission? (Staff)

4. Inasmuch as current spent fuel pool practices appear to have been followed at the time 10 C.F.R. § 50.68 was first formulated, why did the proposed rule or the Statement of Considerations for the final rule not contain an explicit discussion of administrative controls on burn-up and decay time? Why was 10 C.F.R. Part 50, Appendix A,

Criterion 62 (GDC 62) (which has been in effect since 1971) not amended or clarified at the time 10 C.F.R. § 50.68 was adopted (during 1998), to reflect that administrative controls on burn-up and decay time (as well as factors explicitly mentioned in GDC 62) could be considered? (Staff)

5. What is the scope of the phrase "physical systems or processes" as used in GDC 62? (All parties)

6. Are "procedural controls" included in the scope of "physical processes?" (All parties)

7. If a licensee changes from an 18-month to a 24-month fuel cycle, what changes must or should the licensee make in the spent-fuel pool? (Intervenors, Staff)

For the Atomic Safety and
Licensing Board

/RA/

Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE

Rockville, Maryland
May 23, 2000

[Copies of this Memorandum have been e-mailed on May 23, 2000 to counsel for each of the parties.]

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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(Millstone Nuclear Power Station, Unit No. 3)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB MEMORANDUM (QUESTIONS FOR PARTIES) have been served upon the following persons by U.S. mail, first class, or through NRC internal distribution.

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Docket No. 50-423-LA-3
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(QUESTIONS FOR PARTIES)

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[Original signed by Adria T. Byrdsong]

Office of the Secretary of the Commission

Dated at Rockville, Maryland,
this 23rd day of May 2000