June 26, 2002

Mr. J. A. Price
Vice President - Nuclear Technical Services - Millstone
Dominion Nuclear Connecticut, Inc.
c/o Mr. David A. Smith
Rope Ferry Road
Waterford, CT 06385

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION, SPENT FUEL POOL REQUIREMENTS, MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2 (TAC NO. MB3386)

Dear Mr. Price:

By letters dated November 6 and December 27, 2001, you submitted a proposed amendment to the Technical Specifications associated with the spent fuel pool for Millstone Nuclear Power Station, Unit No. 2.

The U.S. Nuclear Regulatory Commission staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure. We request that the additional information be provided within 30 days of receipt of this letter. The 30-day response timeframe was discussed with Mr. Ravi Joshi of your staff on June 12, 2002. If circumstances result in the need to revise your response date, or if you have any questions, please contact me at (301) 415-1420.

Sincerely,

/RA/

Richard B. Ennis, Senior Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosure: Request for Additional Information

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION

REGARDING PROPOSED AMENDMENT TO TECHNICAL SPECIFICATIONS

SPENT FUEL POOL REQUIREMENTS

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO 50-336

By letters dated November 6 and December 27, 2001, Dominion Nuclear Connecticut, Inc. (the licensee) submitted a proposed amendment to the Technical Specifications (TSs) associated with the spent fuel pool (SFP) for Millstone Nuclear Power Station, Unit No. 2 (MP2). Specifically, the licensee has proposed changes that would increase the nominal average fuel assembly enrichment for all regions of the SFP, the new fuel storage racks (dry), and the reactor core; allow fuel to be stored in previously blocked fuel cells; credit SFP soluble boron for reactivity control during normal conditions, and reduce the boraflex reactivity credit in Regions A and B of the SFP. The Nuclear Regulatory Commission (NRC) staff has reviewed the information the licensee provided that supports the proposed TS changes. In order for the staff to complete its evaluation, we require the following information regarding your submittal dated November 6, 2001.

1. Your submittal stated that the boraflex in-service testing program consists of three parts. The first part is a direct examination of the boraflex material. The second part is blackness testing, and the third part is SFP pool silica monitoring. The staff requests you to provide a discussion of the following questions pertaining to the licensee's assessment of the boraflex material condition in Regions A and B:

    a. What method do you use to select the panels to inspect? For instance, do you perform Boron-10 Areal Density Gage for Evaluating Racks (BADGER) testing?

    b. Do you have plans to perform additional blackness testing prior to and after adding spent fuel to Regions A and B?

    c. Your submittal states that SFP silica concentrations are measured and monitored for any unusual trend. Using the silica concentration can help determine the average boraflex loss but will not identify the most degraded panel. What is your method of accurately determining boraflex degradation (e.g., BADGER testing)?

    d. What are your current projections for boraflex degradation in Regions A and B? Also, do you use RACKLIFE to make these projections?

ENCLOSURE

e. You stated that the criticality analysis used 0.025 grams B-10/cm^2 (25% of the original design density) as the boraflex density. What are the actual boraflex density values in Regions A and B and how do these values compare to the actual boraflex density values in the SFP?

2. Your submittal stated that in 1992 the NRC approved an amendment that allowed 40 cells in Region B to be blocked for the purpose of compensating for an error in a previous criticality analysis. You now propose to store spent fuel underneath the cell blockers. Placing spent fuel underneath the cell blockers results in a configuration not originally intended for the SFP. The staff requests that you describe the program that verifies the material condition of these cell blockers and the cells that have been blocked for approximately 10 years.

3. Your submittal stated that the changes to current Technical Specification (CTS) 3/4.9.18 make the specification consistent with NUREG 1432 "Standard Technical Specifications - Combustion Engineering Plants" (STS) 3.7.18. The changes made to CTS 3/4.9.16.2 and 3.9.17 to proposed Technical Specification (PTS) 3/4.9.17 make the PTS similar to STS 3.7.17 adjusted for plant-specific nomenclature and design. However, the PTS differs from the STS in that the applicability does not have the STS words "and a fuel storage pool verification has not been performed since the last movement of fuel assemblies in the fuel storage pool" and Required Action A.2.2 is not present. Since the changes to these specifications seems to be based on the STS with the intent on consistency, no justification is provided for this deviation from the STS. Provide a discussion and justification for this deviation from STS 3.7.17.

4. CTS 4.9.16.2 and 4.9.17 specify that the SFP boron concentration be verified to be within the specified limit within 24 hours prior to movement of a fuel assembly, a consolidated fuel storage box or a shielded cask. In addition, CTS 4.9.17 also requires that the boron concentration be verified every 72 hours during the movement of fuel assemblies and consolidated fuel storage boxes. PTS 4.9.17 retains the 24-hour verification and also requires that the boron concentration be verified every 7 days. The justification for the 7-day frequency states that it is a more conservative requirement than the current requirements because the verification is performed whenever fuel is stored in the SFP and there is no corresponding existing surveillance. The staff agrees that this change is a more restrictive change except for the time period when fuel assemblies are stored in the SFP and they are being moved. In this case, there is a corresponding existing surveillance whose frequency is every 72 hours. For this aspect of the change, the change is less restrictive (72 hours to 7 days). No justification is provided for this less restrictive change. Provide a discussion and justification for this less restrictive change.

5. CTS 4.9.16.2 and 4.9.17 specify that the SFP boron concentration be verified to be within the specified limit within 24 hours prior to movement of a fuel assembly, a consolidated fuel storage box, or a shielded cask. PTS 4.9.17 retains the 24-hour verification. The submittal provides an analysis for an SFP boron dilution accident. Based on this analysis, one could conclude that boron concentration verification prior to movement should be retained, but that the frequency "within 24 hours prior to movement" should be changed to a frequency that is less than 24 hours. One could also conclude based on the discussion provided in the analysis on SFP water level

controls, alarms, and operating procedures and the revised Bases for 3/4.9.17, that this surveillance is not necessary. Provide a discussion and justification for the necessity of this surveillance and the adequacy of the specified frequency.

6. Your submittal stated that the changes to CTS 3/4.9.18 make the specification consistent with STS 3.7.18. PTS 3.9.18(a), (b)(1), b(2), and (c) do not seem to be consistent with STS 3.7.18. STS 3.7.18 contains the words "or in accordance with specification 4.3.1.1." The changes made in converting CTS 5.6.1 to PTS 5.6.1.e), f), g) and h) specify the criteria for storing fuel assemblies in Regions A, B, and C of the SFP similar to the storage criteria specified in STS 4.3.1.1.e and f. No justification for this deviation to the STS is provided. Revise PTS 3.9.18(a), (b)(1), (b)(2), and (c) to be consistent with STS 3.7.18, as modified by plant-specific characteristics, or provide a discussion and justification for this deviation.

7. Your submital stated that the changes to CTS 3/4.9.18 make the specification consistent with STS 3.7.18. PTS 3.9.18(a), (b)(1), (b)(2), and (c) do not seem to be consistent with each other and with the STS. PTS 3.9.18(a) and STS 3.7.18 use the same words "The combination of initial enrichment and burnup of each fuel assembly..." PTS 3.9.18(c) also uses the same words except "each fuel assembly" is changed to "each consolidated fuel storage box". PTS 3.9.18(b)(1) and (b)(2) substitute the word "a" for "each" in the phrase "each fuel assembly". No justification is provided as to why this substitution was made in PTS 3.9.18(b)(1) and (b)(2). The change could limit the number of fuel assemblies with an initial enrichment and burnup within the specified limits to be stored in Region C to one fuel assembly. Revise PTS 3.9.18(b)(1) and (b)(2) to be consistent with STS 3.7.18, or provide a discussion and justification for this deviation.

8. CTS 5.6.1 is replaced by PTS 5.6.1 which is patterned after STS 4.3.1 as modified by plant-specific nomenclature and design characteristics. PTS 5.6.1.c) and d) specify the K_{eff}s for the SFP if flooded with unborated and borated water, respectively. The K_{eff}s include an allowance for uncertainties as specified in PTS 5.6.1.c) and d). However, no mention or reference to a document is made as to where these uncertainties can be found as is done in STS 4.3.1. Revise PTS 5.6.1.c) and d) to reference the document(s) where the allowance for uncertainties can be found, or provide a discussion and justification for this deviation.

9. On page 6 of Attachment 1 of your submittal, the paragraph related to Design Feature 5.6.1a stated that the proposed change "acknowledges an NRC requirement" stated in an SER related to Westinghouse topical report WCAP-14416-P. In addition, the paragraph related to Design Features 5.6.1b through 5.6.1h stated that "[t]he wording format of these proposed design features is intended to comply with the NRC SER contained in WCAP-14416-NP-A." Please state the requirements and the design features alluded to in the SER.

10. In the last paragraph on page 8 of Attachment 1 of your submittal, it stated that individual pins may have an enrichment of as high as 5.0 w/o U-235. Does every assembly containing these highly enriched individual pins have an assembly average that is more conservative than accounting for individual pins?

11. On page 9 of Attachment 1 of your submittal, in the middle of the fourth paragraph, it stated that the boraflex gap model has been made significantly more conservative. What exactly was done to accomplish this?

12. On page 10 of Attachment 1 of your submittal, the last sentence of the third paragraph, stated that "[i]f axial blankets are present, then the center zone average enrichment would be used." Please clarify.

13. In the last paragraph on page 12 of Attachment 1 of your submittal, please clarify the apparent contradiction between the statements made in the following two sentences:

> "The SFP heat load analysis of record maximizes heat load by having all SFP storage locations filled with fuel at the end of plant life."
>
> "The Batch B fuel assemblies have a decay time > 16 years, which is a longer decay time than the decay time of any fuel in the heat load analysis of record."