

Northeast
Utilities System

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Docket No. 50-423
B16200

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Millstone Nuclear Power Station Unit No. 3
Response to Request for Additional Information
Regarding Moving A Spent Fuel Assembly and Its Associated
Lifting and Handling Components

In a letter dated January 9, 1997, the NRC Staff transmitted a request for additional information concerning inconsistencies between the Technical Specifications (TS) and Final Safety Analysis Report (FSAR) for Millstone Unit No. 3 regarding the weight of a spent fuel assembly and its associated handling and lifting components.

Background

Section 3.9.7 of the Unit TS states that loads in excess of 2200 pounds for Millstone Unit 3 shall be prohibited from travel over fuel assemblies in the storage pool. The Bases for TS 3.9.7 states that the restriction on movement of loads in excess of the nominal weight of a fuel assembly and associated handling tool over the fuel assemblies in the storage pool ensures that in the event this load is dropped: (1) the activity release will be limited to that contained in a single fuel assembly, and (2) any possible distortion of fuel in the storage racks will not result in a critical array.

Section 9.1.4.3 of the FSAR states that the spent fuel handling tool weighs approximately 400 pounds and the weight of one fuel assembly is 1600 pounds. Section 9.1.2.1 of the Seabrook updated FSAR states that the impact load for the design of the racks is based on a 17X17 fuel assembly, 8.426 inches square, 167 inches long, weighing 1616 pounds, and falling a distance of 18 inches to the racks at the worst possible orientation.

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The TS seem to imply that the weight of one fuel assembly and its associated handling tool is 2200 pounds. However, the FSAR seems to indicate that the weight of one fuel assembly and its associated handling tool for both plants is approximately 2000 pounds. Further, if the spent fuel storage rack design impact load for Seabrook is 1616 pounds as given in Section 9.1.2.1 of the Seabrook updated FSAR, this is significantly less than the previously mentioned TS limits.

To support further NRC evaluation of this apparent inconsistency and resulting potential safety concern, Northeast Utilities (NU) has been requested to provide its basis and justification for the previously described inconsistencies within 30 days of the date of the January 9, 1997 letter (February 10, 1997).

Northeast Nuclear Energy Company (NNECO) has reviewed the inconsistency between FSAR Section 9.1.4.3 and TS 3.9.7, for Millstone Unit No. 3 and described in the January 9, 1997 letter. In addition, NNECO review has identified an inconsistency between the Basis of TS 3.9.7 and FSAR Section 15.7.4.1. Issues addressed by the subject review:

- Basis and Justification for the Described Inconsistencies
- Conclusions from the Review for the Described Inconsistencies
- Safety Significance for the Described Inconsistencies
- Actions Planned to Correct the Described Inconsistencies
- Commitments Regarding the Described Inconsistencies

Basis and Justification for the Described Inconsistencies

Applicable drawings show the combined weight of a fuel assembly with a Rod Cluster Control Assembly (RCCA) is approximately 1600 pounds (dry weight), while the weight of the spent fuel handling tool is approximately 380 pounds (dry weight) for a combined dry weight of approximately 2000 pounds.

The Unit spent fuel storage racks have been analyzed for a drop of a fuel assembly and RCCA with a combined weight of 1616 pounds. In this analysis the drop height is assumed to be 30 inches above the top of the racks.

TS 3.9.7 states that loads in excess of 2200 pounds shall be prohibited from travel over fuel assemblies in the storage pool. The 2200 pound value was selected based on guidance in the vendor technical manual for the hoist, that recommends the overload setpoint be set at 2000 ± 200 pounds. However, design impact load analysis for the spent fuel racks does not exist for loads up to 2200 pounds.

The Basis of TS 3.9.7 states that in the event that the nominal weight of a fuel and control rod assembly and associated handling tool over other fuel assemblies in the storage pool is dropped, the activity release will be limited to that contained in a single fuel assembly. However, Section 15.7.4.1 of the FSAR states the activity release will be limited to that from complete failure of one fuel assembly and an additional 50 rods in a second fuel assembly.

Conclusions from the Review of the Described Inconsistencies

The value of 2200 pounds in TS 3.9.7 is presently not supported by existing design impact load analysis for the drop of a fuel assembly with the RCCA onto the spent fuel racks.

Conclusions from the inconsistency between the Basis of TS 3.9.7 and Section 15.7.4.1 of the FSAR are pending full investigation and resolution of the inconsistency.

Safety Significance of the Described Inconsistencies

The safety significance of the subject inconsistency with the 2200 pound value given in TS 3.9.7 is presently unknown pending completion of appropriate analysis.

The safety significance of the inconsistency between the Basis of TS 3.9.7 and FSAR Section 15.7.4.1 is presently unknown pending full investigation and resolution of the inconsistency.

Actions Implemented or Are Planned to be Implemented to Correct the Described Inconsistencies

Actions Implemented

The power supply breakers for the spent fuel bridge crane and new fuel handling crane have been tagged open to prohibit moving any loads over the spent fuel pool pending completion of design impact load analysis.

Actions Planned to Be Implemented

A revised design impact load analysis will be performed to support an appropriate load limit. TS 3.9.7 and its bases will be modified, if needed.

A change request to the FSAR will be prepared and approved in order to:

- clarify that the value of approximately 2000 pounds corresponds to the combined dry weight of a fuel assembly, the RCCA, and the fuel handling tool, and

- reflect the revised design impact load analysis.

The inconsistency between the Basis of TS 3.9.7 and FSAR Section 15.7.4.1 will be fully investigated and resolved and the safety significance of the inconsistency will be determined.

NNECO will submit a supplementary report upon completion of the revised impact load analysis described above.

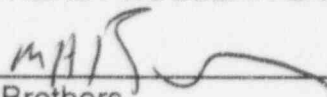
Commitments Regarding the Described Inconsistencies

Attachment 1 provides the regulatory commitments in this submittal.

Should you have any questions regarding this submittal, please contact Mr. James M. Peschel at (860) 437-5840.

Very truly yours,

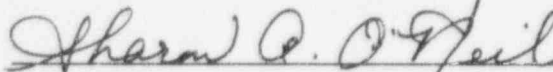
NORTHEAST NUCLEAR ENERGY COMPANY



M. H. Brothers
Vice President - Millstone Unit No. 3

Subscribed and sworn to before me

this 6 day of February, 1997



Sharon A. O'Neil

Date Commission Expires: My Commission Expires March 31, 1997

cc: H. J. Miller, Region I Administrator
J. W. Andersen, NRC Project Manager, Millstone Unit No. 3
A. C. Cerne, Senior Resident Inspector, Millstone Unit No. 3
W. D. Travers, Dr., Director, Special Projects

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Attachment 1
Millstone Nuclear Power Station Unit No. 3
List of Regulatory Commitments

February 1997

Enclosure
List of Regulatory Commitments

The following table identifies those actions committed to by NNECO in this document. Any other actions discussed in the submittal represent intended or planned actions by NNECO. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Manager - Nuclear Licensing at the Millstone Nuclear Power Station Unit No. 3 of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed Date or Outage
B16200-1: A revised design impact load analysis will be performed to support an appropriate load limit. TS 3.9.7 and its bases will be modified, if needed.	Prior to moving any load over fuel assemblies stored in the spent fuel pool.
B16200-2: A change request to the FSAR will be prepared and approved in order to: <ul style="list-style-type: none">clarify that the value of approximately 2000 pounds corresponds to the combined dry weight of a fuel assembly, the RCCA, and the fuel handling tool, andreflect the revised design impact load analysis.	Within 120 days of completing the revised design impact load analysis.
B16200-3 The power supply breakers for the spent fuel bridge crane and new fuel handling crane have been tagged open to prohibit moving any loads over the spent fuel pool pending completion of design impact load analysis.	Upon submittal of supplementary report.
B16200-4: The inconsistency between the Basis of TS 3.9.7 and FSAR Section 15.7.4.1 will be fully investigated and resolved and the safety significance of the inconsistency will be determined.	Prior to moving any load over fuel assemblies stored in the spent fuel pool.
B16200-5: NNECO will submit a supplementary report upon completion of the revised design impact analysis described above.	Prior to moving any load over fuel assemblies stored in the spent fuel pool.