Northeast
Nuclear Energy

Rope Ferry Rd. (Route 156), Waterford, CT 06385

Millstone Nuclear Power Station
Northeast Nuclear Energy Company
P.O. Box 128
Waterford, CT 06385-0128
(860) 447-1791
Fax (860) 444-4277

The Northeast Utilities System

DEC 20 1999

Docket No. 50-245
B17942

Re:10 CFR 50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Nuclear Power Station, Unit No. 1
Revision to Proposed Technical Specifications Bases
Related to Fuel Storage Pool Water Level

Pursuant to 10 CFR 50.90, Northeast Nuclear Energy Company (NNECO) hereby submits a revision to the Bases submitted on April 19, 1999,[1] for the proposed Limiting Condition for Operations (LCO) 3.1.1, "Fuel Storage Pool Water Level."

In letters dated April 19, 1999,[1] and August 25, 1999,[2] NNECO requested a revision to the Millstone Unit No. 1 Technical Specifications to reflect the permanently shutdown and defueled condition of the plant. As a part of that request, changes were proposed to reformat the specifications similar to those of the improved standard technical specifications applicable to operating nuclear power plants. This included a renumbering and reformatting of current Technical Specification 3.10.C to form proposed specification 3.1.1. Bases for the proposed LCO 3.1.1 were also provided.

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[1] Letter from R. P. Necci to U.S. NRC, B17621, "Proposed Revision to Technical Specifications, Permanently Defueled Technical Specifications," dated April 19, 1999.

[2] Letter from R. P. Necci to U.S. NRC, B17829, "Supplement No. 1 to the Permanently Defueled Technical Specifications, (TSCR 1-1-99)," dated August 25, 1999.

A001

As described in letters dated October 14, 1999,[3] and November 3, 1999,[4] reanalysis of the Fuel Handling Accident Analysis applicable to Millstone Unit No. 1 was performed during the NRC review of the proposed specifications. Because of this analysis, portions of the originally proposed Bases for LCO 3.1.1 did not reflect the latest analysis. The letters of October 14, 1999,[3] and November 3, 1999[4] provided the analysis information to the Commission to support their issuance of Amendment 106 to the Operating License. The proposed changes to Technical Specifications 3.10.C, 3.10.D, and 3.10.E were not addressed in Amendment 106. The letter dated November 3, 1999[4] committed to provide additional information to support issuance of these specifications.

The attachment to this letter provides the revisions to the originally proposed Bases pages that reflect the latest analysis, consistent with the applicable improved standard technical specification format. These revised Bases pages have been reviewed by the Plant Operations Review Committee (PORC) and are presented to support the review and issuance of the balance of the proposed specification changes provided in the letters dated April 19, 1999 and August 25, 1999.

In accordance with 10 CFR 50.91(b), we are providing the state of Connecticut with a copy of this proposed amendment to ensure their awareness of this request.

There are no regulatory commitments contained within this letter.

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(3) Letter from F. C. Rothen to U.S. NRC, B17900, "Revised Fuel Handling Accident Analysis Assumptions and Results," dated October 14, 1999.

(4) Letter from F. C. Rothen to U.S. NRC, B17912, "Revised Fuel Handling Accident Analysis - Additional Information," dated November 3, 1999.

If you have any questions or comments regarding this submittal, please contact Mr. Bryan Ford at (860) 437-5895.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

F. C. Rothen
Vice President - Nuclear Work Services

Subscribed and sworn to before me

this 20 day of December, 1999

Donna Lynne Williams
Notary Public

Date Commission Expires: Nov 30, 2001

cc: H. J. Miller, Region I Administrator
L. L. Wheeler, NRC Project Manager, Millstone Unit No. 1
P. C. Cataldo, NRC Inspector

Director
Bureau of Air Management
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

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Attachment 1

Millstone Nuclear Power Station, Unit No. 1

Proposed Technical Specifications Bases 3.1.1
Fuel Storage Pool Water Level

December 1999

B 3.1 DEFUELED SYSTEMS

B 3.1.1 Fuel Storage Pool Water Level

BASES

BACKGROUND

The minimum water level in the spent fuel storage pool meets the assumptions of iodine decontamination factors following a fuel handling accident. A general description of the spent fuel storage pool design is found in Chapter 3 of the DSAR, (Ref. 1). The assumptions of the fuel handling accident are found in Chapter 5 of the DSAR (Ref. 2).

APPLICABLE SAFETY ANALYSIS

Although the unit is permanently shutdown and defueled, fuel handling accidents in the fuel storage pool are still possible.

A bounding calculation of the radiological consequences of such an accident in the spent fuel pool was performed, based on the following:

- Actual source term - radioactive decay since shutdown credited
- Failure of four assemblies - 248 fuel rods in four 8 x 8 assemblies
- Unfiltered ground release - no credit for secondary containment or standby gas treatment

The analysis concluded that 1) calculated doses at the exclusion area boundary and the low population zone are within 10CFR100 limits; and 2) calculated doses to the operating units and Unit 1 Control Rooms are within the limits set in GDC-19.

(continued)

BASES

LCO

The fuel storage pool water level is required to be greater than or equal to 33 feet above the bottom of the pool. The bottom of the fuel storage pool is located at an elevation of 69 feet, 9 inches above mean sea level (MSL). Therefore, the 33 feet limit corresponds to an elevation of 102 feet, 9 inches above MSL.

This water level preserves the assumptions of the fuel handling accident analysis and provides shielding to minimize the general area dose when irradiated fuel is being moved.

APPLICABILITY

This LCO applies whenever irradiated fuel assemblies are stored in the fuel storage pool.

ACTIONS

A.1

When the initial conditions for an accident cannot be met, action should be taken to preclude the accident from occurring. When the fuel storage pool level is lower than the required level, fuel handling activities should be suspended immediately. This does not preclude movement of items to a safe position.

Fuel handling activities as described in this specification include the movement of spent fuel, or other loads suspended from the fuel building crane or refueling machine, over irradiated fuel assemblies.

This effectively precludes a fuel handling accident from occurring.

A.2

This action is intended to restore the fuel storage pool level as soon as possible to minimize the time that the water level assumed in the accident analysis is not being met.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.1

This SR ensures that the water level is within the established limit. The water level in the fuel storage pool must be checked periodically. The 24 hour Frequency is based on engineering judgement and is considered adequate because of available indication of level changes and the large volume of water in the pool. Water level changes are controlled by facility procedures and level changes are unlikely based on operating experience.

References

1. DSAR Chapter 3
2. DSAR Chapter 5