NORTHEAST UTILITIES
THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

General Offices • Seldon Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 666-6911

May 11, 1984

Docket No. 50-423
B11171

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Reference: (1) B. J. Youngblood letter to W. G. Counsil, Draft SER for Millstone Nuclear Power Station, Unit 3, dated December 20, 1983.

(2) W. G. Counsil letter to B. J. Youngblood, NRC-ASB Review Meeting (March 14, 1984), dated March 27, 1984.

Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3
Responses to Draft SER Open Items ASB-9, ASB-16, ASB-20 and ASB-18

Attached is Northeast Nuclear Energy Company (NNECO) response to the Auxiliary Systems Branch Draft SER open item ASB-9 concerning spent fuel pool decay heat loads contained in Reference (1). Also enclosed are the revised responses to Draft SER open items ASB-16, ASB-20, and ASB-18 that remained open at the March 14, 1984 ASB meeting (Reference 2). These responses should fully resolve the staff's concern regarding open items.

If there are any questions, please contact our licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY ET AL
BY NORTHEAST NUCLEAR ENERGY COMPANY
THEIR AGENT

W. G. Counsil
Senior Vice President

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STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me W. G. Counsil, who being duly sworn, did state that he is Senior Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Lisa E. Wendlick
Notary Public

My Commission Expires March 31, 1988

Open Items

Auxiliary Systems Branch

ASB-9 Spent Fuel Pool Decay Heat Loads (Draft SER Section 9.1.3)

The applicant has not presented sufficient information to enable the staff to determine whether the system is in conformance with the requirements of GDC 44 and BTP ASB 9-2 with respect to its ability to remove decay heat. Therefore, the staff cannot complete its evaluation of the spent fuel pool cooling and cleanup system to determine compliance with the acceptance criteria of SRP Section 9.1.3.

Response (5/84)

The following information is provided to allow the NRC Staff to complete their evaluation of Section 9.1.3 of the Millstone Unit No. 3 FSAR, as requested in the draft SER:

1) Spent Fuel Pool Cooling System heat load calculations assumed the most limiting single failure, which is the loss of one of the two redundant spent fuel pool cooling trains. This is confirmed in FSAR Section 9.1.3.3.

2) The decay heat loads used in sizing the spent fuel pool cooling system are shown in the FSAR Figures 9.1-7 and 9.1-8.

   In deriving the Figures 9.1-7 and 9.1-8, it was assumed that spent fuel from Millstone Unit Nos. 1 and 2 would also be stored in the Millstone Unit No. 3 spent fuel pool. These decay heat loads were conservatively found to envelope the maximum heat load generated by 1836 spent fuel assemblies from Millstone Unit No. 3. At present the applicant has applied for an operating license for Millstone Unit No. 3 on the basis of storing only Millstone Unit No. 3 spent fuel in the Millstone Unit No. 3 spent fuel pool. If the applicant ever decides to store Millstone Unit No. 1 and/or Millstone Unit No. 2 spent fuel in the Millstone Unit No. 3 spent fuel pool, an application for a license amendment will be docketed at that time.

The curves in Figures 9.1-7 and 9.1-8 were generated using proposed ANS Standard 5.1 "Decay Heat Power in Light Water Reactors" Rev. September 1978. For conservatism, an uncertainty factor of 1.1 was applied to the results. In addition, the following calculational parameters were used:

Normal Refueling

	Irradiation Time	Time After Shutdown	Number of Fuel Assemblies in Pool
MP1 Fuel	4.0 yr. (1460 EFPD)	1 year	1096
MP2 Fuel	3.5 yr. (1277 EFPD)	1 year	630
MP3 Fuel	3.0 yr. (1100 EFPD)	1 year except for last 1/3 core offload - 132 hr.	512

Emergency Core Offload

	Irradiation Time	Time After Shutdown	Number of Fuel Assemblies in Pool
MP1 Fuel	4.0 yr. (1460 EFPD)	1 year	1096
MP2 Fuel	3.5 yr. (1277 EFPD)	1 year	630
MP3 Fuel	3.0 yr. (1100 EFPD)	1 year except for the last 1-1/3 cores:	512
MP3 - 1/3 core	1100 EFPD	70 days	
MP3 - 1/3 core	783 EFPD	10 days	
MP3 - 1/3 core	417 EFPD	10 days	
MP3 - 1/3 core	50 EFPD	10 days	

Open Items

Auxiliary Systems Branch

ASB-16 and 20 Condenser Circulating Water Pit (Draft SER Sections 9.3.3, 10.4.5)

The applicant has not provided adequate information on whether the sump alarm system is safety related or the consequences if the circulating pumps are not stopped within 15 min. If the sump and alarm system is not safety related, the applicant should confirm that continued operation of these pumps could cause the water to flow out of the turbine building through scuppers and doors to the yard and no damage to the safety-related equipment would occur. Shutdown of the pumps would eventually stop the flow. This is an open item.

Response (3/84)

FSAR Section 10.4.5.3 which addresses a circulating water expansion joint rupture states that the water level within the turbine building could reach elevation 21 feet - 6 inches if an operator were to delay responding to the sump alarm for a period of 15 minutes. No damage to safety-related equipment would occur at this water level. Although the circulating water discharge pit level alarm is not safety related, numerous other alarms would be generated in addition to a turbine trip signal, prior to the water level reaching this elevation.

Status (3/84)

Open.

Revised Response (5/84)

The sump alarm system in the turbine building is not safety related. A circulating water expansion joint rupture in the turbine building will result in internal flooding until the water level reaches elevation 28 feet. Upon reaching this elevation, the siding liner panel, located at elevation 24 feet - 6 inches between column lines A39 and A43 will blow out. The existing siding liner panel will be replaced with pressure release siding to allow this to happen. The panel is located on the west side of the turbine building away from several Category I structures which are located east of the turbine building. Therefore, continued operation of the circulating water pumps will not result in damage to safety related systems or components.

Status(5/84)

Closed

Open Items

Auxiliary Systems Branch

ASB-18 AFW Reliability Study (Draft SER Section 10.4.9)

The applicant has not submitted the AFW reliability analysis for staff review; the staff, therefore, cannot confirm the applicant's results.

Response (3/84)

The Section 2.3.3.5 of Probabilistic Safety Study (PSS) for the AFW reliability analysis was provided to the NRC Staff for their review prior to the ASB meeting. The NRC Staff indicated that the methodology used in the PSS study differs from the Standard Review Plan (SRP) guidelines. The NRC Staff stated that NNECO provide the justification for the deviation from the SRP guidelines or submit a separate reliability study for the AFW system.

Status (3/84)

Open.

Revised Response (5/84)

In a May 8, 1984 telephone conversation between your Ms. E. L. Doolittle and our Mr. R. Joshi, Ms. Doolittle indicated that no further clarification/justification was necessary. As such, we consider the information contained in the section 2.3.3.5 of PSS is sufficient to close this open item.

Status (5/84)

Closed