Mr. Neil S. Carns
Senior Vice President
and Chief Nuclear Officer
Northeast Nuclear Energy Company
c/o Ms. Patricia A. Loftus
Director - Regulatory Affairs
P.O. Box 128
Waterford, CT 06385

June 11, 1997

SUBJECT: CORRECTED REQUEST FOR ADDITIONAL INFORMATION REGARDING MILLSTONE UNIT 2 THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM (TAC NO. M96200)

Dear Mr. Carns:

By letter dated May 15, 1997, we requested additional information (RAI) regarding the Millstone Unit 2 third 10-year interval inservice inspection program. Due to an administrative oversight, the RAI was missing a page and included a duplicate second page.

The RAI has been corrected. Please replace the RAI, as the enclosure to our May 15 letter, with the enclosed revised RAI.

We regret any inconvenience this may have caused.

Sincerely,
Original signed by:

Daniel G. McDonald, Senior Project Manager
Special Projects Office - Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosure: As stated

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SECOND REQUEST FOR ADDITIONAL INFORMATION

THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

NORTHEAST NUCLEAR ENERGY COMPANY

DOCKET NUMBER 50-336

1. Scope/Status of Review

The U.S. Nuclear Regulatory Commission (NRC) is responsible for the review and disposition of licensee requests relating to inservice inspection (ISI) requirements contained in Title 10 of the Code of Federal Regulations (10 CFR), Section 50.55a, and the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code or ASME Code), Section XI. In each request, licensees are required to provide both a regulatory basis (by citing the appropriate section of 10 CFR 50.55a) and a technical discussion supporting the request. This information is used to establish the context for each evaluation.

The NRC staff has reviewed the information submitted by Northeast Utilities (NU) in its letters dated July 2 and March 20, 1997, and found that additional information is required to complete the review.

2. Additional Information Required

Further information and/or clarification of the March 20, 1997, NU response to the NRC staff's initial request for additional information is needed. Please respond to the following:

2A. In the NU's response regarding the apparent conflict between the ISI program and the Code requirement to examine a percentage of reactor pressure vessel studs each period (Reference Response E.), NU stated that relief should not be required as they are meeting Code requirements. Based on the current industry implementation of Examination Category B-G-1, through the 1989 Edition, the staff does not agree with the licensee's position. The 1989 Edition of the Code has five items for reactor vessel bolting. NU has not addressed the volumetric examination, *Item B6.20, Closure Studs, inplace*, which does not allow deferral. For pressurized water reactors, all studs are typically removed each refueling outage. *Item B6.30 Closure Studs, when removed*, includes the note that deferral is permissible. However, it is understood that deferral of the subject examinations is only acceptable when the component disassembly is scheduled at the end of the interval.

Enclosure

Although later editions of the Code state that deferral is permissible, the NRC Staff has not approved this change. In addition, it has been noted that in later editions of the Code (1995 Edition), the Table for Examination Category B-G-1 is incomplete as Note 5 has been eliminated. In later editions of the Code, IWB-2412 Inspection Program B, maintains that the required percentage in each Examination Category shall be completed in accordance with Table IWB-2412-1 with the following exception.

Item (4) states, "examinations deferred until disassembly of a component for maintenance, repair, or volumetric examination, as allowed by Examination Categories B-G-1, B-G-2, B-L-2, and B-M-2. If there are less than three items or welds to be examined in an Examination Category, the items or welds may be examined in any two periods, or in any one period if there is only one item or weld, in lieu of the percentage requirements of Table IWB-2412-1."

Considering that all reactor pressure vessel closure head studs are removed each refueling outage (54 studs), NU can perform the required examinations each period. As a result, the basis for deferral of all of the closure head studs until the end of the interval is not supported. For the NRC Staff to find this part of the NU's program acceptable, NU must schedule a sample of reactor pressure vessel closure studs for examination each period in accordance with Table IWB-2412-1. Provide the action NU proposes to take regarding the scheduling of the reactor pressure vessel closure head studs.

2B. In accordance with 10 CFR 50.55a(c)(3), 10 CFR 50.55a(d)(2), and 10 CFR 50.55a(e)(2), ASME Code cases may be used as alternatives to Code requirements. Code cases that the NRC has approved for use are published in Regulatory Guide 1.147, *Inservice Inspection Code Case Acceptability*, with any additional conditions the NRC may have imposed. When used, these Code cases must be implemented in their entirety. ASME approved Code cases awaiting NRC acceptance and subsequent publication in Regulatory Guide 1.147 may be adopted only if the licensee requests, and the NRC authorizes, their use on a case-by-case basis.

Use of Code Cases not published in Regulatory Guide 1.147 may be acceptable when conditions deemed appropriate by the NRC are included; a licensee proposing the use of such alternative(s) must commit to meet these conditions.

NU has submitted a list of Code cases for implementation during the third interval. It is noted that NU requested and received approval for use of certain Code cases in the previous interval and NU requested that these requests remain approved for the third interval. For several of these cases, the use was approved provided that NU satisfy certain conditions. It is necessary that written commitments be provided for these conditions by NU. Therefore, NU

should review requests for implementing Code cases that have not yet been published in Regulatory Guide 1.147 and submit new requests for the third interval that include commitments for the appropriate conditions; this is necessary for the NRC to find the Code case(s) acceptable for implementation.

2C. It is noted that NU included Nozzle-to-Shell, Examination Category B-D (NS-1 and NS-4), in Request for Relief RR-89-03. This request does not include a basis for relief for Examination Category B-D. Is it the intent of NU to include Examination Category B-D in Request for Relief RR-89-03? If so, the request should be revised to reflect this or a separate relief request provided for Examination Category B-D items. Take appropriate action regarding this discrepancy.

2D. In Request for Relief RR-89-10, NU has requested relief for steam generator nozzle-to-shell welds. Based on a review of the information provided, it appears that the joint configuration, due to the steam generators' replacement, is a heavy wall pipe butt weld. Provide a basis for the classification (Examination Category B-D) of the subject welds.

In addition, it appears that the replacement design did not take into account the inspectability requirement of the Code. The weld configuration, a nozzle boss-to-nozzle boss, does not appear to be conducive to ultrasonic examination. Describe the examination technique for the subject welds.

Because the volumetric examination provides limited coverage, the licensee should consider a VT-1 visual examination of the subject area of the nozzle interior as an alternative to the limited volumetric examination. The VT-1 visual examination could be performed during steam generator tube inspections. Provide the action NU proposes to take regarding the current relief and examination being proposed for the subject welds.

2E. For Request for Relief RR-89-17, NU has proposed an alternative to the Code-required removal of insulation on borated systems for VT-2 visual examinations during pressure tests. This alternative is similar to Code Case N-533. However, NU has proposed the following alternative for Class 2 borated systems. "Each inspection period Borated Class 2 system connections shall be VT-2, visually examined at zero or static pressure with insulation removed."

The purpose of a VT-2 visual examination is to look for evidence of leakage and, if leakage has occurred, to take corrective action. Because certain Class 2 systems are relied on for the safe shutdown of a plant (i.e., provide emergency shutdown features), it is technically prudent to monitor the bolted connection integrity of these systems similar to Class 1 systems. The NRC Staff has determined that because hydrostatic pressure test requirements can be satisfied by pressure tests performed at normal operating

pressure and because the subject VT-2 test can be performed during refueling outages by looking for evidence of leakage, the subject insulation removal is not pressure test frequency dependent. Therefore, the requirement for insulation removal should be the same for both Class 1 and 2 borated systems and NU should commit to the removal of insulation and VT-2 visual examination of bolted connections in Class 1 and 2 systems borated for controlling reactivity each refueling outage. Confirm that insulation removal will be performed for both Class 1 and 2 borated systems each refueling outage.

cc:

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