U. S. NUCLEAR REGULATORY COMMISSION
REGION I

DOCKET/REPORT NO.	50-336/94-14
LICENSE NO.	DPR-65
LICENSEE:	Northeast Nuclear Energy Company
FACILITY NAME:	Millstone Nuclear Power Station, Unit 2
INSPECTION AT:	Waterford, Connecticut
INSPECTION DATES:	March 7-11, 1994

INSPECTOR: Robert A. McBrearty — 3/28/94
Robert A. McBrearty, Reactor Engineer — Date
Materials Section, EB, DRS

APPROVED BY: for Robert A. McBrearty — 3/28/94
Michael C. Modes, Chief — Date
Materials Section, EB, DRS

Areas Inspected: An announced inspection was conducted of the licensee's inservice inspection (ISI) program and related activities including plans and schedules, and nondestructive examination (NDE) implementing procedures. The inspection was conducted to ascertain that those activities were carried out in accordance with applicable ASME Code and regulatory requirements.

Results: The ISI program and related activities comply with applicable code and regulatory requirements. The NDE implementing procedures were well written and clearly defined the appropriate requirements. A system is in place to track the progress and status of the ISI program that additionally, is used for scheduling purposes and for confirming that required examinations have been completed or scheduled for performance.

DETAILS

1.0 INSERVICE INSPECTION (ISI) PROGRAM ACTIVITIES (IP 73051, 73753)

Commercial operation at Millstone Unit 2 commenced on December 1, 1975, and the facility is now in the third period of its 2nd 10-year inservice inspection interval. All examinations required by Code to be performed during the interval must be completed during the scheduled 1994 refueling outage which is the last scheduled outage of the interval. The inservice examinations performed during the 2nd interval are governed by the ASME Section XI, 1980 Edition through winter 1981 Addenda. The Code edition and addenda applicable to examinations performed during the 3rd 10-year interval will be determined using the rules of 10 CFR 50.55a(g).

1.1 Plans and Schedules

The licensee has developed a historical examination summary which is a list of items that are scheduled for inservice examination during the second 10-year inspection interval. The summary includes all of the items that are required by ASME Section XI to be examined during the interval and identifies the particular year during which each item should be examined. Also, there is a schedule of those items that are to be examined during the upcoming 1994 refueling outage.

The inspector compared the historical examination summary to the outage schedule to determine whether all of the items listed on the summary for examination during the 1994 outage were, in fact, listed on the outage schedule or accounted for.

All items in the following Code categories were selected for review:

- Category B-A, Pressure Retaining Welds in Reactor Vessel
- Category B-D, Full Penetration Welds of Nozzles in Vessels
- Category B-F, Pressure Retaining Dissimilar Metal Welds
- Category B-J, Pressure Retaining Welds in Piping
- Category C-C, Integral Attachments for Vessels, Piping, Pumps, and Valves

The records, which are maintained in a computer data base, confirmed that the required examinations were scheduled for completion during the 1994 outage and, upon performance, would complete the ASME Code, Section XI requirements related to the specific Code categories for the second 10-year inspection interval.

Conclusions

The licensee has a system in place to track the progress and status of its ISI program. That system is used for scheduling purposes and for confirming that required examinations have been completed or scheduled for performance.

2.0 NONDESTRUCTIVE EXAMINATION (NDE) PROCEDURE REVIEW (IP 73052)

Various NDE implementing procedures were reviewed to determine whether the applicable ASME Code and regulatory requirements were complied with. The following procedures were selected by the inspector for review:

- Procedure No. NU-LP-1, Revision 11, issued 10/6/93, "Liquid Penetrant Procedure Color Contrast Solvent Removable"
- Procedure No. NU-LP-2, Revision 2, issued 10/19/93, "Liquid Penetrant Procedure Fluorescent Water Washable Method"
- Procedure No. NU-MP-1, Revision 10, issued 12/1/93, "Magnetic Particle Procedure Dry Particle Yoke Method"
- Procedure No. NU-MP-4, Revision 0, issued 12/1/93, Magnetic Particle Procedure Direct Contact, Central Conductor, and Coil Wet Fluorescent Method"
- Procedure No. NU-UT-1, Revision 11, issued 1/19/94, "Ultrasonic Examination General Requirements"
- Procedure No. NU-UT-2, Revision 10, issued 12/20/93, "Ultrasonic Examination Austenitic Piping Welds"*
- Procedure No. NU-UT-3, Revision 8, issued 12/20/93, "Ultrasonic Examination Ferritic Piping Welds"*
- Procedure No. NU-UT-26, Revision 3, issued 10/15/92, "Ultrasonic Examination Primary Coolant Pipe Welds"*

With one minor exception, all of the reviewed procedures complied with applicable requirements regarding the various NDE methods discussed by the procedures. The exception involved Procedure NU-UT-1 which failed to completely identify specific ultrasonic couplant permitted for use at the site. The licensee will review the procedure and make any necessary corrections prior to its use during the refueling outage.

All of the procedures, with the exception discussed above, were well written and clearly defined the requirements.

Site NDE procedures must be reviewed every two years by the licensee or whenever three (3) Procedure Change Notices (PCN) are issued relative to a particular procedure. The subject of the PCNs must change the intent of the procedure to mandate the review before two years have elapsed. Whenever three PCNs that change its intent are issued relative to a procedure, that procedure will be reissued after a complete rewrite. The procedures listed above, that are identified by an asterisk, have 3 PCNs changing their intent issued and are due for licensee review and rewrite.

Conclusions

The licensee's nondestructive examination procedures are well written and, in general, clearly define the appropriate requirements.

3.0 STEAM GENERATOR TUBE EDDY CURRENT EXAMINATION (IP 73753)

Millstone Unit 2 is a Combustion Engineering two-loop pressurized water reactor with replacement steam generators manufactured by Babcock and Wilcox Canada. Steam generator #1 contains 8522 U-bend tubes and steam generator #2 contains 8523 U-bend tubes. Those tubes are fabricated of Inconel 690 material.

The tubes are nominal 0.750" outside diameter with a 0.0445" nominal wall thickness and are hydraulically expanded full length into the tube sheet.

All of the tubes in each of the two steam generators were subjected to eddy current examination prior to steam generator installation and again after installation to determine whether damage had occurred during the installation process. The eddy current examination planned for the 1994 refueling outage will be the first after operation of the steam generators.

The plan is to examine 2400 randomly selected tubes in each steam generator using a bobbin coil eddy current probe. A small sample of tubes in each steam generator will be examined using a rotating pancake coil probe. The examinations will be conducted from the cold leg side full length from tube sheet to tube sheet. Additionally, the licensee plans to perform an inspection of the top of the tube bundle on the secondary side, sludge lancing and to perform a foreign objects search at the top of the tube sheet.

4.0 EXIT MEETING

The inspector met with licensee representatives, denoted in Attachment 1, at the conclusion of the inspection on March 11, 1994. The inspector summarized the scope and findings of the inspection. The inspector's remarks were acknowledged by the licensee.

ATTACHMENT 1

Persons Contacted

Northeast Nuclear Energy Company

*	H. Beeman	Technical Support
*	L. A. Bigalhal	Licensing Engineer
*	R. F. Blanchard, Jr.	Technical Support
*	K. A. Murphy	Quality Assurance Engineer
*	F. Rothen	Director - Site Services

U. S. Nuclear Regulatory Commission

*	K. Kolaczyk	Resident Inspector

* Denotes those present at exit meeting