



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

*Docket File*

September 14, 1990

Docket No. 50-336

MEMORANDUM FOR: John F. Stolz, Director  
Project Directorate I-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

FROM: Guy S. Vissing, Senior Project Manager  
Project Directorate I-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

SUBJECT: REPORT OF VISIT TO MILLSTONE, UNIT NO. 2  
AUGUST 19 - 23, 1990

INTRODUCTION

This visit was a quarterly project manager visit to the plant site for the purpose of maintaining project manager awareness of Millstone, Unit 2, status and operations and to perform inspections found necessary. The morning station and the morning plant staff meetings were attended. One PORC meeting that involved the review of the blackness testing of the spent fuel pool poison boxes was attended. The video of the inspection of the spent fuel pool poison boxes was reviewed and discussed with the plant engineering staff. The video of the inspection of CEAs in the spent fuel pool was reviewed and discussed with the plant engineering staff. The service water intake structure was visited for the purpose of viewing the leaks in the service water piping and the accompanying non-code repairs. The new spool pieces that are to be used to replace areas of service water piping in need of repair was inspected. The control room was visited several times in the inspection activity for Temporary Instruction TI 87-01, Control Room Environment. The set up for blackness testing of the Region 1 spent fuel pool poison boxes was observed. The actual inspection of the poison boxes through blackness testing was observed. The new fuel assemblies in the dry storage area was inspected noting, in particular, the reason why four assemblies could not be stored in the dry storage area. In addition, licensee actions regarding IE Notice 89-10, Pressurizer Safety Lift Setpoint Shift and NRC Bulletin 89-03, Potential Loss of Required Shutdown Margin was closed out. Two open items in inspection reports relating to the service water check valves included in the IST program and the "A" DG saturable transformers were closed out.

Persons contacted included:

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IE INFORMATION NOTICE 89-10, PRESSURIZER SAFETY LIFT SETPOINT SHIFT

This inspection consisted of follow-up on the licensee's actions relating to IE Information Notice 89-10. This information notice advised licensees of potential problems resulting from operating pressurizer safety valves (PSV) in an environment different from that used to establish the PSV lift setpoints. Northeast Utilities established, by memorandum from S. E. Scace, Director Millstone Station, to T. A. Mulder, Nuclear Operations - Berlin dated March 12, 1990, that Millstone 2 was originally constructed with loop seals between the Pressurizer and Safeties. However, as a result of safety problems identified by EPRI in 1982, the loop seals were removed in August 1983. The PSVs are removed and sent to Wyle Laboratories for testing and overhaul during each refueling outage. The valves are tested under conditions which resemble actual inservice conditions. Because loop seals have been removed from the PSV piping and because testing is done under conditions that resemble actual use, anomalies such as those described in the information notice could not occur at Millstone 2.

The Wyle Laboratories procedure for testing the PSV was reviewed together with the test results of the last tests done in February 1989. Prior to refurbishment, each valve is tested three times to determine the lift pressure and then tested for leakage. The valve is completely disassembled by the Dresser Field Service Representative. The components are cleaned and inspected, the nozzle and disc seats are lapped and the valve is reassembled for testing. The valve is leak tested prior to lift setpoint testing. The valve must undergo three consecutive acceptable lift setpoint tests for acceptance and the valve is again leak tested. The valve is also given a gaseous Nitrogen Backpressure Test. The Wyle Laboratories test report certified the valves acceptance. It was noted that these valves weigh approximately 800 lbs and they are carefully handled during shipment to prevent disturbance of their setpoint. No inadequacies were noted.

TEMPORARY INSTRUCTION RI TI 87-01, CONTROL ROOM ENVIRONMENT

This TI was addressed generically through issuance of IE Circular No. 81-002, Performance of NRC Licensed Individuals While On Duty, and the inspection must be performed each year within the last quarter of the SALP cycle. Prior to the inspection, Administrative Control Procedure ACP 6.01, Control Room Procedure was reviewed. The conditions that NRC believes to be necessary for the maintenance of a professional atmosphere in the control room was noted. The control room was under observation at four different times with three different crew shifts operating. One shift turnover was observed. The shift turnover took approximately 45 minutes. Each on-shift operator briefed his relief operator on the plant status and his activities. The shift supervisor briefed his relief on the plant status and his activities. Both shift supervisors signed the log noting the time of shift turnover. When the shift turnover was complete, the

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shift supervisor reviewed the plant status and activities of the prior shift and the current shift with all the operators including those that were within the plant. The on-duty NRC-licensed operators and operating supervisor appeared to be aware of and responsible for the plant status at all times. Each shift was consistent in that there were two operators at the controls behind the red line, one senior operator at the desk before the red line and one plant operator standing by in the control room. At all times the plant was at 100% power with very few trouble lights lit.

The operators appeared to be alert, remained within their immediate areas of responsibility and were attentive to the instrumentation and controls within these areas. It was noted that each shift was consistent in that the operators were consuming soft drinks or coffee while on duty and within their area but not near the controls. The licensee indicated that this was an acceptable practice as long as refreshments were not consumed directly over the controls. It was noted that ACP 6.01 provides a caution note that hard hats are not worn by personnel inside the operations area (behind the red line) of the control room but is silent on the consumption of refreshments directly over the controls.

There were no distracting activities, loitering of personnel or unnecessary personnel in the control room. It was noted that only on one occasion that maintenance personnel working in a far corner of the control room crossed the red line without removing the hard hats. The two people involved took the shortest route from the control room entrance to the work area that took them across the red line and between two control panels.

During each visit to the control room there appeared to be a very professional atmosphere evident and no inadequacies were noted.

NRC BULLETIN NO. 89-03, POTENTIAL LOSS OF REQUIRED SHUTDOWN MARGIN DURING REFUELING OPERATIONS

This inspection is a follow-up on the licensee's actions relating to NRC Bulletin No. 89-03. The bulletin was provided to alert licensees to the potential loss of required shutdown margin during the movement and placement of highly reactive fuel during refueling operations. The licensee's response to the NRC dated January 25, 1990, indicated that Advanced Nuclear Fuels, Inc., would provide a "Fuel Assembly Storage Table" that would provide alternate storage locations where fuel assemblies can be temporarily placed during core alterations for the next refueling (September 1990). This table has been provided and the licensee will submit the revised procedure at the next PORC meeting. The licensee indicated that appropriate personnel will be trained in these procedures.

OPEN ITEM 89-17-01, SERVICE WATER CHECK VALVE IN IST PROGRAM

This inspection relates to the follow-up to IE Bulletin 83-03, Check Valve Failures in Raw Water Cooling Systems of Diesel Generators, in which the inspector could not determine if the disassembly and inspection of the service water check valves were in the current 10 year IST program. The

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Millstone, Unit 2, Second Ten Year Inservice Test Program for Pumps and Valves, Revision 1, dated April 4, 1990, identifies that the diesel cooling discharge check valves will be disassembled, examined and stroke tested every 40 months. This issue is resolved.

OPEN ITEM 89-17-05, DOCUMENTATION FOR DG SATURABLE TRANSFORMERS

This inspection relates to the resident inspector's follow-up of the under-excitation events with the "A" EDG during the end of July, 1989, where the inspector could not identify and find documentation relating to the design specifications of the replacement saturable transformers. The licensee provided the Purchase Order No. 874222 for three saturable transformers consisting of a one-for-one replacement for the existing saturable transformers installed at Millstone 2. Also provided was vendor's (Basler Electric, Highland, Illinois) certificate of compliance verifying that the items specified had been inspected and tested in accordance with all applicable drawings, specifications of the purchase order and are equal or better in form, fit and function than the original units supplied by the Fairbanks Morse Company. The transformers were source inspected by the licensee's QA organization and found to be in compliance with the Purchase Order. Also, the licensee provided the seismic review and the inservice test for the "A" diesel generator. With the above documentation and others related to this issue the licensee appears to have adequate design control of documentation and, thus, this issue is resolved.

BORAFLEX INTEGRITY ISSUE OF THE SPENT FUEL POOL POISON BOXES

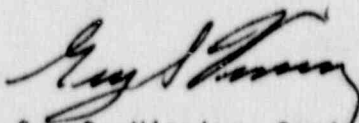
The licensee had inspected 14 poison boxes with a video camera in the area of the vent hole on the inside of each side of each poison box. The boraflex appeared to be intact in every side and showed no erosion. Some assemblies appeared to be discolored.

Further, the licensee had contracted with the NUSURTEC Company to perform blackness testing of the poison boxes to confirm the presence and integrity of the boraflex in the poison boxes. Initially the contractor was to inspect approximately 12 assemblies.

The testing was performed using a tool which contained a Californium-252 neutron source and four BF3 neutron detectors. The testing tool is a square stainless steel container which contains the neutron source and the detectors and is such that it will just fit within a poison box. The neutron source is below the detectors and the detectors above and on each side are shielded on all sides except the side facing the sides of the poison boxes. The testing tool is lowered into selected SFP storage location, where the fast neutrons emitted by the source pass through the walls of the storage rack. The fast neutrons become moderated in the water in the adjacent storage locations, and scatter back toward the testing tool. These back-scattered neutrons are absorbed in the areas of the storage rack where the boraflex material is intact. In areas where

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the poison material is degraded or missing, the back-scattered neutrons will pass through the rack walls and will be registered as increased counts by the detectors inside the testing tool. The testing tool is lowered in a cell location and as it is raised, the detectors provide a readout on a strip chart. During the observation of the inspection no gaps in boraflex were detected; however, during subsequent inspections on the following day gaps in boraflex were detected and the testing was expanded.



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- ACRS (10)
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