

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No.: 50-423/90-15

Docket No.: 50-423

License No. NPF-49

Licensee: Northeast Nuclear Energy Company
P.O. Box 270
Hartford, Connecticut 06141-0270

Facility Name: Millstone Nuclear Power Station, Unit 3

Inspection at: Waterford, Connecticut

Inspection
Conducted: July 24 through September 4, 1990

Reporting
Inspector: Kenneth S. Kolaczyk, Resident Inspector,
Millstone 3

Inspectors: William J. Raymond, Millstone Senior Resident
Inspector
Kenneth S. Kolaczyk, Resident Inspector, Millstone 3

Approved by: Donald R. Haverkamp 9/24/90
Donald R. Haverkamp, Chief Date
Reactor Projects Section 4A
Division of Reactor Projects

Inspection Summary: Inspection on July 24 - September 4, 1990
(Inspection Report No. 50-423/90-15)

Areas Inspected: Routine onsite inspection at Millstone 3 during
normal and backshift work periods of plant operations; maintenance and
surveillance; security; engineering and technical support; radiological
controls; and safety assessment and quality verification.

Results: See Executive Summary.

Executive Summary

Millstone Nuclear Power Station - Unit 3 Inspection No. 50-423/90-16

Plant Operations

Reviews conducted in this area did not identify any significant findings. One item concerning the licensee compensatory actions taken when fire doors are blocked open for maintenance activities was updated.

Radiological/Chemistry Controls

No significant findings were noted during this report period.

Maintenance/Surveillance

Inattention to detail during procurement of weld material resulted in incorrect weld filler material being used. The failure of various licensee personnel to identify this error is being tracked as an unresolved item.

Security

No significant findings were noted during this report period.

Engineering/Technical Support

Two open items were closed during this report period. The first item tracked actions taken to reduce spurious radiation alarms. The second concerned the failure of the licensee to report an event which violated fuel building integrity. Additionally, once a potential deficiency in the environmental qualification of the hydrogen analyzers was discovered, appropriate compensatory actions were taken. An open item will track licensee resolution of the environmental qualification issue, investigation into the reasons for the error, and examination of other components to ensure a similar problem does not exist.

Safety Assessment/Quality Verification

Several licensee event reports were reviewed for technical adequacy and corrective actions. No significant findings were identified.

TABLE OF CONTENTS

	Page
1.0 Plant Operations Review.....	1
2.0 NRC Inspection Review.....	1
3.0 Plant Operations (IP 71707/71710)*.....	2
3.1 Control Room Observations.....	2
3.2 Plant Tours.....	2
3.3 Review of Plant Incident Reports (PIRs).....	3
3.4 Previously Identified Items.....	3
3.4.1 (Open) Violation 88-23-01: Failure to Establish Appropriate Compensatory Measures When the Doors Are Blocked Open for Maintenance Activities.....	3
3.5 Engineered Safety Features System Walkdown.....	4
3.6 Security.....	4
4.0 Maintenance (IP 62703/61726).....	4
4.1 Observation of Maintenance Activities.....	4
4.2 Reactive Review of Plant Incident Report 3-90-139, Incorrect Weld Filler Wire Used.....	5
5.0 Surveillance (IP 62703/61726).....	8
5.1 Observation of Surveillance Activities.....	8
6.0 Engineering/Technical Support (IP 37701/92701,92702).....	8
6.1 Previously Identified Items.....	8
6.1.1 (Closed) IFI 87-21-02, Review Licensee Actions to Reduce the Frequency of Nuisance Radiation Alarms.....	8
6.1.2 (Closed) Violation 50-423/89-14-01, Failure to Report on Event which Violated Fuel Building Integrity.....	10
6.2 Design Deficiency Discovered.....	10
6.3 10 CFR 21 Report Submitted Concerning General Electric Induction Motor.....	12
7.0 Safety Assessment/Quality Verification (IP 92700/71707//90712).....	12
7.1 Committee Activities.....	12
7.2 Periodic Reports.....	13

TABLE OF CONTENTS

	Page
7.3 Licensee Event Report Review.....	13
7.3.1 LER 90-25: Improper Fire Watch Established Because of Personnel Error.....	13
7.3.2 LER 90-21: Containment Isolation Valve Left Open.....	14
7.3.3 LER 90-26: Hydrogen Monitor Environmental Qualification Deficiency.....	15
7.3.4 LER 90-24: Control Building Isolations Due to Radiation Monitor Degradation.....	15
7.4 Management Meetings.....	16

* The NRC inspection manual inspection procedure (IP) or temporary instruction (TI) that was used as inspection guidance is listed for each applicable report section.

DETAILS

1.0 Plant Operations Review

The Millstone Nuclear Power Station Unit 3 (Millstone 3 or the plant) remained essentially at 100% of rated thermal power for the entire report period. On August 11, plant power was reduced to 85% for eleven hours to perform condenser backwashing operations. From August 21 to August 24, plant output was held to 99% because of maintenance performed on the 'E' intake bay which required taking the associated circulating water pump out-of-service. On August 25, when the 'E' circulating water pump was returned to service, plant power was returned to 100% of rated thermal power, where it remained throughout the remainder of the report period.

2.0 NRC Inspection Review

During the week of July 23, two separate special inspections were performed. The first inspection consisted of a team of NRC inspectors who conducted a review of Millstone Unit 3 implementation of the requirements for post-accident instrumentation contained in regulatory guide 1.97. The team conducted an exit meeting on July 27 and documented their findings in inspection report 50-423/90-12. The second inspection reviewed the implementation of the health physics program at Millstone Station. The inspector who conducted the review also exited on July 27. Results of the health physics inspection are contained in inspection report 50-423/90-13.

On July 25, the Millstone resident staff as well as a number of both regional and headquarters management and staff personnel conducted a public meeting to discuss NRC activities at the Millstone site. Approximately 15 members of the public as well as a number of local officials and Millstone staff attended the meeting.

On July 30 to August 3, an inspection of the Millstone Station program for handling packaging and transportation of radioactive waste was performed. Preliminary results did not identify any significant weaknesses and noted several program strengths. An exit meeting was held on August 3; findings will be documented in inspection report 50-423/90-14.

A routine inspection of the Millstone Station security program was conducted from August 27 to August 31. Preliminary results identified an apparent violation in personnel access control. The NRC safeguards inspectors held an exit meeting on August 31 and their findings will be documented in inspection report 50-423/90-16.

The resident inspection activities during this report period included 150 hours of inspection during normal activity working hours. In addition, the review of plant operations was routinely conducted during periods of backshifts (evening shifts) and deep backshifts (weekends and midnight shifts). Inspection coverage was provided for 21 hours during backshifts and 3 hours during deep backshifts. An exit meeting which provided the results of this inspection was conducted on September 14, 1990.

3.0 Plant Operations

3.1 Control Room Observations

The inspector reviewed plant operations from the control room and reviewed the operational status of plant safety systems to verify safe operation of the plant in accordance with the requirements of technical specifications and plant operating procedures. Actions taken to meet technical specification requirements when equipment was inoperable were reviewed to verify the limiting conditions for operations were met. Plant logs and control room indicators were reviewed to identify changes in plant operational status since the last review and to verify the changes in the status of plant equipment was properly communicated in the logs and records.

Control room instruments were observed for correlation between channels, proper functioning and conformance with technical specifications. Alarm conditions in effect were reviewed with control room operators to verify proper response to off-normal conditions and to verify operators were knowledgeable of plant status. Trainees who were manipulating reactor controls were under instruction by licensed operators. Operators were found to be cognizant of control room indications and plant status during normal working hours and backshift observations. Control room manning and shift staffing were reviewed and compared to technical specification requirements. No significant findings were identified.

3.2 Plant Tours

The inspector observed plant operations during regular and backshift tours of the following areas:

Control Room	Containment
Vital Switchgear Rooms	Diesel Generator Rooms
Turbine Building	Intake Structure
Auxiliary Building	Engineered Safety Features Building
Spent Fuel Building	Demineralized Water Storage Tank Enclosure
Main Steam Valve Building	

During plant tours, logs and records were reviewed to ensure compliance with station procedures, to determine if entries were correctly made, and to verify correct communication and equipment status. Housekeeping was judged to be satisfactory; no other significant observations were identified.

3.3 Review of Plant Incident Reports (PIRs)

The plant incident reports (PIRs) listed below were reviewed during the inspection period to (i) determine the significance of the events; (ii) review the licensee's evaluation of the events; (iii) verify the licensee's response and corrective actions were proper; and, (iv) verify that the licensee reported the events in accordance with applicable requirements, if required. The PIRs reviewed were numbers 3-90-118 through 3-90-140. PIR 3-90-139 warranted inspector followup as discussed in section 5.1.1 of this report.

3.4 Previously Identified Items

3.4.1 (Open) Violation 88-23-01: Failure to Establish Appropriate Compensatory Measures When Fire Doors are Blocked Open for Maintenance Activities

This violation concerned ineffective licensee measures to ensure that appropriate actions were established when fire doors were blocked open for maintenance activities. This determination was based upon an increase in the number of plant incident reports (PIRs) and licensee event reports (LERs) which documented the discovery of identical repetitive conditions of blocked open fire doors.

In a February 17, 1989, response to the notice of violation, the licensee considered inadequate fire door labeling as the root cause of the majority of fire door events. Specifically, personnel did not recognize that the doors were fire boundaries when they were blocked open. To alleviate this concern, the licensee labeled all doors with a unique identifier and a label stating that the door was a specific fire boundary and it was not to be obstructed. Procedures were also developed to periodically verify that the doors are properly labeled. The licensee revised the fire detector testing surveillance procedure SP 3641D.3, Fire Detection and Control System Operability Check, to identify the expected alarm conditions during testing and to verify proper restoration of the system to prevent inadvertent disabling of alarm systems. Additionally, the licensee reemphasized the need for vendor, contractor, and other non-company employees with unescorted access to comply with site rules or procedures.

The inspector verified that site services procedure GSP 1905/21905/31905, Fire Door Inspection, and operations surveillance procedure SP 3614I.5, SLCRS and Control Room Habitability Door Inspection, correctly identified the fire door attributes. Additionally, the inspector noted that SP 3641D.3 had been revised to include the expected alarm response when testing.

The inspector considers the licensee corrective actions appropriate as fire doors have not been blocked open because personnel are not sensitive to the purpose of the door. However, the frequency of fire-related reportable and non-reportable events has increased since May of 1990. According to licensee management, several of the events could be a result of an increase in compensatory fire watches required when fire surveillances were allowed to lapse because personnel who were tasked with performing the surveillances were involved in intake system activities. The inspector recognizes that an increase in the number of fire watches provides a greater chance to fail, however recent events have occurred after the backlog of surveillances were reduced. This recent increase in fire-related events and subsequent licensee actions will be reviewed in future resident inspections.

3.5 Engineered Safety Features System Walkdown

The inspector conducted a detailed system walkdown of accessible portions of the residual heat removal (RHR) system. The inspector verified that the system was aligned in accordance with licensee valve lineup sheets, plant drawings reflected as-built configuration, and housekeeping was adequate.

Valves in both trains of the RHR system were found to be in the expected position. Equipment was correctly labeled. No significant concerns were identified during the walkdown.

3.6 Security

Selected aspects of site security, including site access controls, personnel searches, personnel monitoring, placement of physical barriers, compensatory measures, guard force staffing, and response to alarms and degraded conditions, were verified to be proper during inspection tours. No significant observations were noted.

4.0 Maintenance

4.1 Observation of Maintenance Activities

The inspector observed and reviewed selected portions of preventive and corrective maintenance to verify compliance with regulations, use of administrative and maintenance procedures, compliance with codes and standards, proper QA/QC involvement, use of radiological controls when required, use of bypass jumpers and safety tags, personnel protection, and equipment alignment and retest. The following activities were included:

- M3-90-12955, Fuel Building Filter Inlet Isolation Damper, July 30, 1990
- M3-90-01954, 'A' Boric Acid Preventive Maintenance, July 20, 1990
- M3-90-14322, Filter Step Failures, August 12, 1990
- M3-90-11063, 3QSS*MOV29A 18-Month Preventive Maintenance, August 24, 1990
- M3-90-14696, Engineered Safety Features Building Sump Pump Discharge Line Piping Modification, August 29, 1990
- M3-90-15082, Service Water Leak on Cat 1 Components Findings, August 17, 1990

AWO M3-90-15082 is discussed in section 4.2 of this report.

4.2 Reactive Review of Plant Incident Report 3-90-139, Incorrect Weld Filler Wire Used

This plant incident report (PIR) was written on August 30, 1990, to investigate the use of incorrect filler material during an August 25, 1990, weld. The defective weld was located on the "A" service water piping to the control room air conditioning units (ACUs) and was made to replace a corroded section of pipe which had developed a through-wall leak. The deficiency involved performing a weld on copper nickel piping with nickel copper weld wire.

Discovery of Incorrect Material

The discovery of the incorrect filler material was made by a unit 3 welder who checked the identification tags on the weld rods that were used to repair the ACU service water piping. The welder noted that the weld rods were nickel copper vice the copper nickel that was required. Different weld rods are stacked close together in the stockroom and have similar identification numbers. Apparently, the stockhandler(s) confused the two types of rods and issued the incorrect material. When the welder examined the filler rods that had been used on a similar section of service water pipe during a previous weld, he noted that they were also nickel copper vice the required copper nickel.

Licensee immediate corrective actions included cutout and replacement of the defective weld material. Certification of the weld with the defective material was not possible since the individual who made the weld - a unit 2 welder - was qualified to weld nickel copper, but not copper nickel, and therefore should not have been authorized to perform this weld.

Long term corrective actions that the licensee is considering to ensure that correct weld filler material is used includes: (1) requiring welders to specify the exact stock number when requesting weld material in addition to the type and size of rod which is currently required on the material issue form, and, (2) review of the event with welders and stockhandlers to emphasize compliance with station procedures.

Inspector Review

The inspector was concerned that an individual who lacked the proper certification was allowed to perform the job assignment. The inspector discussed this issue with a unit 3 maintenance supervisor, who informed the inspector that, because of a shortage of unit 3 welders due to vacations, a welder who was qualified to weld copper nickel pipe was requested from unit 2. The welder's specific qualifications were not rechecked by unit 3 personnel since it was assumed that a qualified welder would be sent from the other unit.

The inspector interviewed the unit 2 welder who performed the work and he indicated that he "thought" he was qualified to weld copper nickel and therefore he accepted the job assignment.

The inspector noted that each welder at Millstone unit 3 has an individual training jacket located in the Millstone 3 maintenance building which establishes the welder's qualification. The jacket lists the material that the welder is qualified to work with, the work that the welder has performed to date and the expiration date of the individual's qualification. The personnel who maintain the jackets at Millstone Unit 3 also process all work orders involving welding. The inspector noted that these individuals do not have immediate access to the training jackets of welders from the other units; therefore, welder qualification must be verified at the welder's "home" unit. A computer program is available which lists the qualifications of all Millstone Station welders; however, the inspector was informed by station personnel that this program cannot be depended upon since it is not frequently updated. Both individuals who maintain the jackets at Millstone 3 indicated that prior to assignment of a unit 3 welder to a job site, the following is performed: (1) the individual's training and qualification jacket is examined to ensure the individual is qualified to weld the material, and, (2) a matrix is then checked to ensure the individual is qualified to weld using the applicable procedure. The inspector concluded that if this process had been followed by Millstone Unit 3 personnel for the Unit 2 welder dispatched to the job site, the lack of qualification would have been identified.

Inspector Assessment

The inspector concluded that this event would have been detected earlier if even one individual had performed their function in accordance with licensee procedures.

The welders who performed the initial work were given incorrect material on two occasions by stockhandler(s), who apparently confused copper nickel with nickel copper on the material issue forms. This is in apparent violation of ACP 4.07, Control of Weld Material, which requires stockhandlers to verify that correct filler material has been obtained prior to issue.

The unit 2 welder who was given the incorrect material failed to check the identification tags that are contained on each weld rod prior to use. This is in violation of the applicable welding procedure specification 300 which identifies the specific type of weld material to be used.

This welding activity was monitored by a quality assurance department inspector in accordance with station procedures; however, he did not identify that incorrect weld material was used. The unit 3 individuals who process work orders which involve welding, did not verify that a properly qualified individual was tasked to perform the work prior to job assignment. Finally, the welder who was sent to perform the work was unqualified to weld using either the applicable procedure or material. According to licensee personnel, at Unit 2, the qualifications of the individual were checked prior to dispatch of the welder to the job. However, the attempts made were inadequate in that the qualification card was not thoroughly reviewed and the procedure matrix was not used. This issue is discussed in greater detail in inspection report 50-336/90-18.

The inspector considers that the licensee's program for welder certification and filler material dispatch is adequate if personnel would be attentive to their functions. The inspector noted that in this instance use of the incorrect weld filler material was not safety significant since a failure of the weld would not have resulted in vital equipment being wetted down which could impact safe shutdown of the plant. Further, the defective section of piping could have been isolated from the service water system in the event of failure and thereby maintain service water operability.

This issue remains unresolved pending NRC review of the following: (1) the licensee corrective actions taken; (2) interview of the individuals who issued the incorrect weld filler material; (3) adequacy of Millstone Unit 3 supervision of welders from other units who are assigned to the work in Unit 3; and, (4) review of the adequacy of Quality Control involvement in this activity (90-15-01).

5.0 Surveillance

5.1 Observation of Surveillance Activities

The inspector observed and reviewed portions of completed surveillance tests to assess performance in accordance with approved procedures and Limiting Conditions of Operation, removal and restoration of equipment, and deficiency review and resolution. The following tests were reviewed:

- SP 3447C02, Hydrogen Monitor Train B Channel Calibration, July 19, 1990
- SP 3626.4, "A" Service Water Pump Operational Test, August 30, 1990
- SP 3610B.3, Low Pressure Safety Injection Valve Operability Test Train B, August 28, 1990
- SP 3441A13 PR 43, Analog Channel Operation Test, August 28, 1990

No significant findings were made.

6.0 Engineering/Technical Support

6.1 Previously Identified Items

6.1.1 (Closed) IFI 87-21-02, Review Licensee Actions to Reduce the Frequency of Nuisance Radiation Alarms

This item was opened when a routine inspection of control room activities on September 28, 1987, revealed that a control room operator was unaware that a high radiation level existed on radiation monitor HVR-19B. This monitor is used to measure radiation levels contained within the supplementary leak collection and release system (SLCRS) exhaust duct. The inspector noted that nuisance radiation monitor system (RMS) alarms which had occurred 10-50 times an hour had apparently desensitized the operator to the alarm condition.

Subsequent to the inspector's finding, the licensee initiated several actions to reduce the frequency of nuisance radiation alarms, including the following five actions. (1) The development of operating procedure 3269 "Radiation Monitor Setpoint Change" was developed, which allows operators to modify radiation monitor alarm setpoints when the setpoints are close to their alarm conditions. (2) Several monitors were modified to improve their reliability such as redesigning the direction elements on which the rotating filter sample paper travels. This modification has reduced the tension that the paper is under when it changes direction as it travels through the monitor. The reduced tension has decreased the frequency of paper breaks resulting in fewer radiation monitor failures. (3) Radiation monitor

surveillance procedures were revised to increase the frequency of monitor surveillance which included replacement of the the rotating filter paper which has at times ran out and caused resulting failure alarms. (4) At the beginning of 1990, the responsibility for repair and surveillance of radiation monitors was distributed among several instrumentation and control (I&C) department sections. Before the distribution occurred, one I&C section was responsible for repair of the monitors. This arrangement tended to overload that one department when several monitors failed which resulted in a backlog of radiation monitor preventive and corrective maintenance. This backlog increased radiation monitor downtime and the likelihood of monitor failure because of reduced surveillance frequency. The inspector noted that since this workload distribution occurred, monitor downtime has decreased. (5) Modifications were performed to the computer software for the control building radiation monitor 3 HVC-16. These modifications have shielded the monitor's signal from electrostatic and radio interference which have substantially reduced the number of spurious control building isolations caused by monitor spiking.

Additional long term solutions that are being evaluated include modifying the radiation monitors from a rotating filter paper design to a fixed filter element. According to a licensee engineer, monitors which have a fixed filter element have proven to be more reliable at other facilities.

NRC review of the licensee actions to reduce nuisance radiation alarms has concluded that the actions taken so far have been successful. Spurious control building isolations have been dramatically reduced with only three having been recorded in 1990. The repositioning of responsibilities for radiation monitor repair/surveillance to the different I&C sections has reduced the downtime for out-of-service monitors.

Although recurrence of the September 28, 1987, event has not been noted, the NRC believes that spurious alarms should be eliminated since they could cause operator complacency in responding to alarms, they may distract operators from other parameters, and flashing annunciators may distract operators from unlit alarms.

The inspector noted that although the licensee has made progress to reduce spurious radiation alarms, RMS alarms continue to occur albeit at a reduced frequency. Accordingly, the licensee should continue efforts to identify the cause of nuisance RMS alarms and implement corrective actions. This item which formally tracks this issue is closed. However, the inspector will continue to monitor licensee efforts in this area in future resident inspection and performance assessment reports.

6.1.2 (Closed) Violation 50-423/89-14-01, Failure to Report an Event which Violated Fuel Building Integrity

This violation documented a failure of the licensee to prepare a licensee event report (LER) which would report a loss of fuel building integrity during fuel movement activities. The specifics of this event were documented in inspection report 50-423/89-14. On December 14, 1989, the licensee formally reported the loss of fuel building integrity in LER 89-28. In the November 17, 1989, response to the notice of violation, the licensee indicated a willingness to discuss the NRC position concerning the reportability of events which occur at Millstone Station. During the April 1990 mid-SALP inspection, a meeting concerning reportability issues was held with licensee site and corporate personnel. Based upon submittal of the LER, this issue is closed. The inspector will continue to review the adequacy of the licensee evaluation of events for reportability in future resident inspections.

6.2 Hydrogen Monitor Design Deficiency

On July 25, 1990, instrumentation and controls (I&C) technicians were not able to perform a quarterly calibration surveillance of the B train hydrogen analyzer per SP3447C02 "Hydrogen Monitor Train B Channel Calibration". The analyzer cabinet was subsequently removed and tested at the I&C shop. When testing could not identify the cause of anomalous performance, the cabinet was reinstalled and the surveillance was reperfomed. When the monitor failed the second calibration effort, technicians suspected that the high ambient room temperature may be affecting monitor performance. The recombiner building ventilation system was subsequently started and the room temperature was cooled from 85 to 82 degrees. The calibration was then successfully completed. The technician who performed the surveillance then informed the inspector who observed portions of the surveillance that an Instrument Calibration Report (ICR) would be initiated to document that the ventilation system should be running prior to performance of a hydrogen monitor calibration.

Inspector review of Chapter 9 of the Millstone Unit 3 Final Safety Analyses Report (FSAR) which describes the hydrogen building ventilation system revealed that the ventilation system which would have to remain operating was not safety related. Therefore, if a design bases accident occurred with a loss of off-site power the ventilation system would not operate. The inspector was concerned that if this event occurred during a hot day, the hydrogen analyzers may be disabled and rendered inoperable because of high ambient room temperature. The inspector discussed his concerns with the operations supervisor, who initiated plant incident report (PIR) 3-90-110. Subsequent licensee investigation of the PIR concluded that the analyzer may not be qualified to work in

the environment in which it was located. Specifically, the hydrogen monitor design specifications specify a maximum room temperature of 90 degrees; however, the temperature profile for the recombiner building contained in the FSAR states that ambient room temperature could reach 110 degrees for an eight hour period at some time over the life of the plant during normal or accident conditions if the normal non-safety related ventilation is stopped.

Accordingly, the licensee prepared a Justification for Continued Operation (JCO) which outlined why the plant could continue operating when the analyzers could not operate under design conditions. In the JCO, the licensee committed to (1) continuous operation of the hydrogen recombiner system ventilation system, (2) leaving the hydrogen analyzer control cabinet doors open to improve cooling, (3) shift monitoring of the analyzer, (4) establishing a 90 degree action limit that would necessitate hourly monitoring of the analyzer if the temperature exceeded that limit; and, (5) placing caution tags on the main control board informing operators that monitor performance may degrade if temperature exceeds 90 degrees.

In Licensee Event Report 90-26-0, which reported the analyzer design issue, the licensee attributed the cause of the deficiency to inadequate communication between design organizations for the recombiner building and the hydrogen monitor. The inspector attended the Plant Operation Review Committee meeting which discussed the issue and noted it to be thorough. The inspector reviewed the JCO and determined that the licensee's compensatory actions outlined were reasonable and in accordance with the NRC staff's position concerning preparing an environmental qualification JCO as outlined in Generic Letter 88-07, "Environmental Qualification of Electrical Equipment Important To Safety For Nuclear Power Plants." However, the inspector noted that the 90 degree F upper temperature limit may not be conservative based upon inspector observation of the analyzer performance at 85 degrees F. The inspector will monitor the resolution of the following issues, which were identified during this event, in future resident inspections. (1) Adequacy of the upper 90 degree F temperature limit per analyzer operability. (2) Long term corrective actions planned to ensure the analyzers are located in a suitable temperature environment. (3) Determination if a generic concern exists concerning the cooling of safety-related equipment with non safety-related ventilation. (4) Investigation into the reasons for the miscommunication between the design divisions. NRC open item 90-15-02 will follow the above issues.

6.3 10 CFR 21 Report Submitted Concerning General Electric Induction Motor

An August 27, 1990, letter to NRC Region I documented a licensee determination that a November 9, 1989, failure of a lower fan shroud, which damaged the B reactor building component cooling water (RBCCW) pump, constituted a substantial safety hazard per 10 CFR 21. This determination was based upon the subsequent licensee investigation which concluded that a manufacturing defect in the method of a fan shroud attachment to the motor could allow the shroud to become loose and damage the motor assembly.

Examination of other motors which were similar to the General Electric Custom 8000 horizontal model which failed, revealed that six motors had loose shrouds with one motor having an additional problem of cracking around the upper shroud bolts. Licensee corrective actions consisted of repair of the damaged B RBCCW motor at General Electric facilities, tightening the loose shroud bolts on the other motors and weld repairing the cracks on the other motor. Long term corrective action will consist of development of a design change for the subject motors with General Electric. Pending development of a permanent fix, the licensee will inspect pump shrouding for continuous duty pumps yearly; infrequently run pumps will be inspected tri-annual.

The inspector reviewed the 10 CFR 21 report and verified that reporting requirements were met and determined that the licensee corrective actions are appropriate. The inspector determined that this event was not reportable per 10 CFR 50.73 since the RBCCW system is isolated during a design bases event and therefore is not required to shutdown the plant and maintain it in a safe condition. The inspector had no further questions on this issue.

7.0 Safety Assessment/Quality Verification

7.1 Committee Activities

The inspector attended meetings of the Plant Operations Review Committee (PORC) and Nuclear Review Board (NRB). The inspector noted by observation that committee administrative requirements were met for the meetings, and that the committees discharged their functions in accordance with regulatory requirements. The inspector observed a thorough discussion of matters before the review committee and a good regard for safety in the issues under consideration by the committees. No significant observations were made.

7.2 Periodic Reports

Upon receipt, periodic reports submitted pursuant to technical specifications were reviewed. This review verified that the reported information was valid and included the required NRC data. The inspector also ascertained whether any reported information should be classified as an abnormal occurrence. The following reports were reviewed:

- July Monthly Operating Report
- Security Event Log for the Second Quarter of 1990
- August 23, 1990 Special Report Concerning Malfunctioning Loose Parts Monitor, Channel 3

No significant observations were made.

7.3 Licensee Event Report Review

Licensee Event Reports (LERs) submitted during the report period were reviewed to assess LER activity, adequacy of corrective actions, compliance with 10 CFR 50.73 reporting requirements, and determination of generic implications if further information was required. Selected corrective actions were reviewed for implication and thoroughness. The LERs reviewed were:

7.3.1 LER 90-25: Improper Fire Watch Established Because of Personnel Error

This report documents a June 20, 1990, discovery that an improper fire watch - an hourly vice continuous - was established for battery room No. 2 when the accompanying fire door was rendered inoperable eight hours earlier.

The fire door was rendered inoperable when shift supervisors (SS) who were conducting turnover at the time, allowed tape to be placed over the door latching mechanism so fire watch personnel who were performing hourly patrols of the battery room could enter. Fire watch personnel were having difficulty entering the fire doors because the new keys which they were issued were not working properly.

The hourly fire watch was required by technical specification (TS) 3.3.3.7.b, Fire Detection Instrumentation, since the battery room no. 2 fire protection panel had been declared inoperable earlier because of a lapsed surveillance.

When the fire door latch was taped over, a fire rated assembly was rendered inoperable. Since fire detection was out-of-service on both sides of the assembly, TS 3.7.13, Fire Rated Assemblies, requires a continuous vice hourly fire watch be established when a fire rated assembly is inoperable.

Upon discovery of the improper fire watch, the fire door was blocked open and a continuous watch established. On July 16, the fire detection system was satisfactorily tested. Corrective action included routing this LER to all operations department supervisors to emphasize review of TS prior to establishing fire watches. Finally, the event was discussed with both shift supervisors who incorrectly utilized the TS.

The failure to follow TS 3.7.13 is a violation; however, no violation will be issued per the policy in 10 CFR 2 Appendix C as the licensee-identified item had minor safety significance, the event was reported as required, and corrective actions should be appropriate to prevent recurrence. (50-423/90-15-03)

7.3.2 LER 90-21: Containment Isolation Valve Left Open

On June 15, 1990, with the plant at 80% power, containment isolation valve 3HVU-V5 was discovered unlocked and open without the compensatory TS actions taken. Normal position for the valve is closed and locked.

Containment integrity was not breached since the manual isolation valve 3HVU-V6 downstream of 3HVU-V5 and automatic containment valve CTV-33A, which is located upstream of 3HVU-V5, remained closed.

On June 7, 1990, a shift supervisor (SS) had opened 3HVU-V5 and stationed a primary equipment operator at 3HVU-V6 to support a containment entry. These valves are opened to break containment vacuum in an emergency per AOP 3568, Emergency Breaking of Containment Vacuum. However, opening these valves is not part of the containment entry procedure OP 3212. The SS determined that preparing for an emergency break of containment vacuum would be prudent. When 3HVU-V5 was opened, the SS did not log into the containment integrity TS 3.6.1.1 action statement which requires containment integrity to be restored within one hour or a shutdown of the plant within the following six hours. Additionally, the SS did not inform the additional plant licensed operators of the position of 3HVU-V5. After the entry was completed, the PEO stationed near 3 HVU-V6 was relieved; however, 3HVU-V5 was not repositioned.

The cause of the event was failure of the SS to use the applicable procedure OP 3312 for containment entry. Licensee corrective action included closing and locking 3HVU-V5, performing a system valve line, and counselling the SS on procedure usage and communications. The inspector verified that valve 3HVU-V5 was closed and locked and valve 3HVU-V6 was closed. Additionally, the inspector noted that OP 3312 has been revised to require operators to review AOP 3568 prior to authorizing a containment entry.

Inspector review of this event concluded that the significance of this event was small since containment isolation valve 3HVU-CV33A and containment suction valve 3HVU-V6 remained closed during the time period. The inspector noted that although valve 3HVU-V6 is not a local leak rate tested valve, it would have prevented a rapid containment depressurization in the event that valve 3HVU-CV33A was opened. The failure to follow the actions of TS 3.6.1.1 is a violation. However, no violation will be issued per the policy of 10 CFR 2 Appendix C as the licensee-identified item had minor safety significance; the item was reported as required and corrective actions should be appropriate to prevent recurrence (50-423/90-15-04).

The inspector noted that although the SS actions were well intentioned, failure to follow procedures or utilize the formal method for revising a procedure needlessly caused a slight reduction in the control of containment integrity. NRC concerns regarding use and adherence to procedures will be addressed by the inspector as part of the followup of the corrective actions for the notice of violation (90-08-01) contained in inspection report 50-423/90-08.

7.3.3 LER 90-26: Hydrogen Monitor Environmental Qualification Deficiency

This event is discussed in Section 6.2 which documents (1) the inconsistent performance of the B train hydrogen analyzer that was observed during the performance of routine surveillance activities, and (2) the subsequent discovery that the hydrogen monitors may not be qualified for the mild environment in which they are designed to operate. A followup report on the actions that will be accomplished to resolve the environmental questions will be issued by the licensee before February 1, 1991. The inspector will review these actions then.

7.3.4 LER 90-24: Control Building Isolations Due to Radiation Monitor Degradation

This report documented two control building isolation (CBI) signals which were initiated by the A train ventilation radiation monitor HVC-16 on June 20 and July 1, 1990. On both occasions, control room operators blocked the CBI prior to initiation of control room pressurization which occurs 60 seconds after signal processing. On each occasion the B train monitor indicated normal background radiation.

Licensee investigation determined that the cause of the event was detector degradation which produced erroneous indicated radiation

levels above the alarm setpoint. Actions taken were replacement of the detector and revising the preventive maintenance plan for the detectors to require replacement every three years. The A train detector had been in service for five years prior to degradation. A review of other detectors was commenced to determine if periodic replacement is required. Additionally, a licensee system engineer stated that he would contact the manufacturer of the radiation monitor, and inform the company of the monitor degradation so other facilities may be made aware of the potential problem.

The inspector noted that the events were properly reported and documented. Additionally, the inspector verified that the preventive maintenance plan for the detectors had been revised as stated. The inspector determined that the licensee corrective actions were appropriate and had no further questions on this LER.

7.4 Management Meetings

Periodic meetings were held with station management to discuss inspection findings during the inspection period. A summary of findings was also discussed at the conclusion of the inspection. No proprietary information was covered within the scope of the inspection. Following the inspection period, the Millstone Station Director was given a copy of an NRC Memorandum for Regional Administrators from Thomas E. Murley, Director, Office of Nuclear Reactor Regulation, Subject: "Temporary Waivers of Compliance," dated February 22, 1990, which is available in the NRC Public Document Room.