

NORTHEAST UTILITIES

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

General Offices • Seljen Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 665-5000

August 9, 1991

Docket No. 50-336
A09604

Mr. Charles W. Hehl, Director
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406

Dear Mr. Hehl:

Millstone Nuclear Power Station, Unit No. 2
RI-91-A-0082

We have completed our review of the identified issues concerning activities at Millstone Station. As requested in your transmittal letter, our response does not contain any personal privacy, proprietary, or safeguards information. The material contained in this response may be released to the public and placed in the NRC Public Document Room at your discretion. The NRC letter and our response have received controlled and limited distribution on a "need to know" basis during the preparation of this response.

ISSUE 1:

The wiring diagrams involving Reactor Coolant Pump RTD circuits have not been updated following modifications made under a PDCR to replace RTD circuit knife switches with Weidmuller Test Blocks. Drawing No. 25203-31069, Sheet 5 Revision 3, dated August 29, 1989, does not reflect the change for at least 4 RTD circuits (TCD, TCC, TCA, TCB). The instrument loop diagrams (Drawing No. 25203-28500, Sheets 140 & 146) show the Weidmuller Test Blocks. Also, in Drawing No. 25203-31069, Sheet 5, the jumpers shown between cable lead 1 and the cable shield ground on the loop diagrams are not shown. In addition, access to the GRITs system, to verify the latest drawing revisions, is restricted in that personal access codes are only valid for 30 days.

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Request 1:

Please discuss the validity of the above assertions. If discrepancies are found, please assess the significance of the discrepancies with the respect to plant operation and safety and discuss any actions taken or planned to correct these discrepancies.

For clarity, our response to this issue is segregated into two parts. Part A addresses the drawing accuracy portion of the issue and Part B addresses the question relative to GRITs access.

PART A

Background:

PDCR 2-15-86, completed in December 1986, replaced Meter Device Co. knife switches with Weidmuller Inc. Test Blocks. As a result of the PDCR, 320 instrument loops were modified which required 330 drawing changes. Drawing 25203-31069 Sheet 5 was not changed at that time and, therefore, was not updated. Drawing 25203-39045, Sheet 55B includes all of the information of Drawing 25203-31069 Sheet 5 plus internal cabinet wiring. Drawing 25203-39045 Sheet 55B was updated at the time of the change and therefore does show Weidmuller Test Blocks.

Response:

The assertion that Drawing 25203-31069 Sheet 5 was not upgraded at the time of the PDCR implementation is valid. This was the result of an isolated oversight and is not indicative of a program deficiency. Drawing 25203-31069 Sheet 5 is being changed to show the Weidmuller Test Blocks and jumper configuration under Drawing Change Request DCR M2-S-1216-89.

PART B

Background:

Each individual with a need to access the GRITs system has been assigned a User Identification number by the Information Resources Group at Northeast Utilities' corporate offices. Every 30 days individuals with access to this program will be prompted by the computer to change their passwords. The computer is programmed to remind users and provides on-screen instructions on how to change passwords. The computer is also programmed to provide a space where the user will specify a new password.

If the terminal has not been accessed within 30 days, access is not lost. In this case, the user must update his password prior to accessing the GRITs program. If system difficulties are encountered, an IRG HELP phone line is available (24 hours a day) as is department assistance.

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Response:

The user ID and password system is designed to provide the necessary level of security along with an appropriate level of ease of use for the person using the system. Adequate support for infrequent users is also provided.

ISSUE 2:

The Steam Generator No. 2 mid-loop instrumentation (L-122) was not "operable" during drain-down for tube inspections on May 2, 1991. GEM switches were found to be "frozen" on in place. In addition, L-112 had an electronic noise problem caused by an improperly installed jumper. Thus licensee commitment that two monitors be operable during drain-down condition was not being met.

Request 2:

Please discuss the validity of the above assertions. If any discrepant conditions are identified, please discuss their significance with respect to plant operation and safety during Steam Generator No. 2 drain-down evolution. Also please discuss any actions taken or planned to correct these deficiencies.

Response:

For additional clarity, this issue has been segregated into four sections.

- A. The Steam Generator No. 2 mid-loop instrumentation (L-122) was not "operable" during drain-down for tube inspections on May 2, 1991.
- B. GEM switches were found to be "frozen" in place.
- C. L-112 had an electronic noise problem caused by an improperly installed jumper.
- D. The licensee commitment that two monitors be operable during drain-down condition was not being met.

Background:

- A. During the April/May 1991 Steam Generator shutdown, the Westinghouse Ultrasonic level measuring system (L-122) was not operable during drain-down for tube inspection. L-122 was procedurally deleted from use on April 24, 1991 (Procedure Change #3 to Operations Procedure OP 2301E, Rev. 15). During the April/May 1991 shutdown, Westinghouse provided, installed, and tested enhanced design transducers and software. Testing of the system continues until reliable system operation is achieved.
- B. The GEM level indicator (LG-112) uses a floating magnet to position "flags" that provide a visual indication of hot leg level. These flags are monitored by closed circuit TV in the Control Room. During the

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unplanned April/May 1991 outage, previously identified problems with the proper response of the flags to the magnet were investigated. These problems were attributed to factory mismarked replacement flag assemblies and were corrected. The assembly was then tested and demonstrated as acceptable performance.

Subsequent to this activity, during mid-loop conditions during the April/May 1991 outage, the response of the GEM level indicator was observed to not change during very small (<3/4"), and slow changes in RCS level at the +4.5 inch level. Troubleshooting identified that a very light tapping on the side of the GEM standpipe was sufficient to free what was suspected to be a stuck float. Float sticking was not observed during post installation testing performed during the 1990 refueling outage or during previous testing prior to placing the system in service. The vendor of the system had reviewed this problem. They have suggested the replacement of the existing GEM standpipe that contains an internal guide rod with a new design that eliminates the potential for guide rod binding. NNECO intends to obtain and replace the existing assembly with the new design in the future.

- C. LT-112 is a level sensor that generates an analog signal representing the liquid level in a standpipe that is connected to the RCS hot leg. The original design of the system contained an optional electronic lead circuit that was intended to improve the response time of the system during reduction in level. During the system installation and testing during the 1990 refueling outage, unacceptable performance was noted and this feature was defeated by installing a jumper.

During the April/May 1991 steam generator shutdown, unexplained bias and low frequency output indication variations were observed. Upon further testing and consultation with the manufacturer it was determined that the location of the jumper did not completely eliminate the interference of the lead circuit. The jumper placement was corrected and the system response stabilized.

The bias errors observed during the January unplanned outage were attributed to inadequately-sized head vent tubing, and were observed only during fill-up or drain-down evolutions. Larger tubing was installed during the April/May 1991 outage to correct the head vent restriction. A calibration check on May 3, 1991 of the FCI electronics (L-112) provided results very close to those obtained during preoperational testing, and factory acceptance testing at the FCI factory prior to shipment. The low frequency noise response characteristic of the system and the bias observed during the June 1991 outage requires additional monitoring and evaluation for appropriate corrective action.

Response:

- A. L-122 was procedurally deleted from use on April 24, 1991, and therefore was not required for drain-down during the April/May 1991 shutdown. Troubleshooting efforts were continued in a priority basis

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to restore the indication. NNECO and the vendor are continuing efforts to resolve problems associated with the application of ultrasonic technology in this application.

- B. The GEMs sensor was not found "frozen" in place as asserted. Poor response to small slow changes in level was noted and investigated. NNECO is planning design improvements that will improve the sensitivity of the indicator.
- C. The LT-122 jumper placement was corrected. This error did not affect the operability of the indication.
- D. Operations Procedure OP 2301E requires two operable level indicators for drain-down activities. At all times while draining to reduced inventory conditions, at least two level indication systems were in operation. These systems satisfied the level monitoring requirements that were in effect.

ISSUE 3:

Pressure indicating instrument (PI 6350 A/B and PI 6351 A/B) and mountings for Service Water (SW) supply to Emergency Diesel Generators (EDG) are not seismically mounted. Any kind of shock would be sufficient to knock the gauge and valve off the strainer. Additionally, the location of the taps as shown on the P&ID apparently does not coincide with the actual tap locations.

Request 3:

Please discuss the validity of the above assertions. If the assertions are valid, please discuss their effect on the safe operation of SW supply to the EDG. Please provide any actions taken or planned to ensure that seismic requirements for these instruments are being met.

Background:

The issue of the questionable mounting of the gauges and the drawing accuracy was previously identified to management. The design was reviewed and found acceptable for both dead weight and seismic loads. The drawing was reviewed and found to be correct.

Response:

The assertions are not valid. No additional action is warranted.

ISSUE 4:

On May 3, 1991, the Unit 2 Stack Radiation Monitor (RM 8132) was inoperable as a result of being flooded with water. This monitor would have been inoperable anyway, as air flow had been isolated. Filling and pressure testing of Steam Generator (SG) #1 was underway during the same time

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period. Problems with valve line-ups for the radiation monitor and the SG testing contributed to the flooding and monitor inoperability. Additionally, Health Physics (HP) control during removal of the water from the monitor was inadequate resulting in contamination of personnel.

Request 4:

Please discuss the validity of the above assertions. If discrepancies are confirmed, please discuss actions that you have taken or will take to ensure that plant procedures regarding radiation monitor operation, conduct of tests, and HP activities are being used properly.

Response:

On May 3, 1991, Operations personnel noted the loss of the Noble gas activity monitor and subsequently found water coming out of the vent upstream of the No. 1 Atmospheric Dump Valve, and flowing onto RM-8132. The vent was closed to stop the water flow. The Chemistry Department was notified to take samples as required for an inoperable Stack Radmonitor.

As part of the valve line-up for this system, the operator signed for the vent valve to be in its required OPEN position.

Looking at the steam generator pressure test completed the previous week, the required position for the vent valve had been changed by the Shift Supervisor from OPEN to CLOSED, and the test was completed successfully. This was the desired position of the valve for the test. The line-up was intended to be reviewed to indicate the actual desired position of the valve during operations. Procedure Writers Group individuals that were involved thought that a change would be put into the valve line-up by the operating shift and that the new revision would follow on a normal schedule. The change was not submitted, and the next test was completed with the valve in the incorrect position which allowed water to flow on to RM-8132, causing its failure.

The valve line-up errors were the result of the Steam Generator pressure test and have been corrected. The valve line-up for the Radiation Monitor is correct and no changes are necessary. No personnel contamination resulted from this event. We have discussed this event with the operating personnel involved and identified to them the need for accurate valve line-up information at all times.

ISSUE 5:

Procedure discrepancies exist between OP 2336E and SP 2617A for the restoration of the line-up for the radiation monitor (RE-245), and its associated sample pump. Operators routinely fail to perform OP 2336E, Section 5.1, Step 5.1.13 which is to immediately close AOV-244A/B and AOV-245 when securing from Condensate Polishing Facility discharges. This failure to follow procedures results in the sample pump to radiation monitor (RM-245) continuing to operate when the tank discharge is secured.

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Request 5:

Please discuss the validity of the above assertions. If any discrepancies are identified concerning procedure noncompliance, please discuss their significance on the operation of radiation monitor RM-245. Please discuss any corrective actions taken or planned, to ensure operators are meeting procedural and Technical Specification requirements.

Response:

See below.

ISSUE 6:

The following discrepancies have been identified during an evaluation of Work Order AWO-M2-91-04411. These discrepancies identify continued noncompliance with procedures and poor response of operations and management to recurring problems with radiation monitor RE-245.

- A. The sample pump continues to run when the tank discharge stops at 15% tank level (TK-11).
- B. The "Low Flow" switch does not always see a flow condition when TK-10 and TK-11 discharge pumps stop. The head of water in the pipe and tidal conditions affect the flow of water.
- C. Operations normally rely on the 15% tank level pump trip to stop flow causing a low flow to trip shut RE-245 discharge valve, and AOV-245. If AOV-244A/B are shut and no low flow conditions exists, RE-245 sample pump will continue to run until AOV-245 is shut.
- D. Changes to OP 2336E were identified in 1989 to prevent the problems identified by AWO-M2-91-04411. However, continued identified procedure noncompliance by Operations has caused repeated problems.

Request 6:

Please provide an assessment of the above discrepant conditions. If the assertions are valid, please discuss their safety significance and effect on operation radiation monitor RE-245. Please discuss any corrective actions that are being used to correct the problems.

Response:

See below.

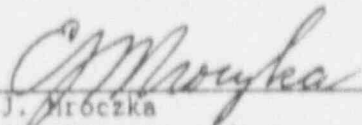
Issues 5 and 6 are identical to an issue raised by an employee via internal correspondence. The responses to the issues are under development. There is an issue relating to system design which is consuming additional resources to evaluate and resolve. We plan to complete our evaluation and respond to both you and an employee who has raised this same issue by September 9, 1991.

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After our review and evaluation of the completed issues (Issues 1 through 4), we find that these issues did not present an indication of a compromise to nuclear safety. A valve line-up error was clearly made and it has been corrected. We recognize the need to strive for a higher level of performance in this area and we are aggressively working towards this objective. We appreciate the opportunity to respond and explain the basis for our actions. Please contact my staff if there are any further questions on any of these matters.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



E. J. Mroczka
Senior Vice President

cc: W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2,
and 3
E. C. Wenzinger, Chief, Projects Branch No. 4, Division of Reactor
Projects
E. M. Kelly, Chief, Reactor Projects Section 4A