UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

AUG 14 1991

[ ]

Dear [ ]

This letter refers to nine concerns that you provided to us on July 8, 1991, including problems with Operating Procedure OP 2383C, Surveillance Procedure 2404AR, the stack alarm monitoring system, a frisker, and our responsiveness to you.

We have initiated action to respond to these concerns as indicated in the enclosure. We will keep you informed of the findings from the reviews of these issues.

Should you have any further questions, or if I can be of further assistance in these regards, please call me collect at (215) 337-5225

Sincerely,

Edward Wenzinger

Edward Wenzinger, Chief
Reactor Projects Branch 4

Attachments: As stated

N-139

bcc:
Allegation File, RI-91-A-0183/RI-91-A-0192
E. Conner
T. Shedlosky
W. Raymond
E. Kelly
EG&G Idaho Representative (LASHER/KIDO)

ENCLOSURE
ALLEGATIONS AND ACTIONS

Issue 183-1:

Operators did not follow OP 2383C to bypass (silence) the local alarm, when RM 8132B was taken out of service.

Action:

This was the subject of your May 13 and July 27, 1991 allegations. We are reviewing this area of concerns by communication with the licensee and by direct inspections, and will inform you of our results.

Issue 183-2:

The NRC is not correcting the alleger's concern about defeating horns.

Action:

This issue will be referred to NRC Office of Inspector General for review.

Issue 183-3:

The high stack alarm switch on RM 8168 was found in disable on July 7, 1991.

Action:

There are no regulatory requirements requiring local alarms to be operable, therefore this issue is closed and the NRC plans no further action in this regard. With regards to the procedural aspects of this issue, as you are aware, the NRC continues to review procedural compliance. This was a major portion of the IPAT inspection just completed.

Issue 183-4:

RM 8168 did not meet the Technical Specification definition of operability because the interlock with RM 8132 was not installed, and after it was, was not tested (per SP 2404AR) to show operability.

Action:

We are aware of no regulatory requirements which require the installation of the interlock between RM 8168 and RM 8132 nor any requirements for testing it because this interlock is not a safety-related function of either monitor. Therefore, the NRC plans no further action in this matter and considers the issue closed.

Enclosure: Allegations and Actions

Issue 183-5:

The PORC review process is inadequate because the change to SP 2404AR to test the 8168/8132 interlock did not work when the test was attempted on July 8, 1991.

Action:

This issue has been referred to the licensee for their review and action. You will be informed of the results.

Issue 183-6:

No frisker was at the 38 ft. elevation of the spent fuel pool area on July 7-8, 1991.

Action:

The booth for the frisker was found to be in place but a frisker was not installed. When the concern was reported to H.P. management, the frisker was replaced. Based on proper response by the H.P. management the NRC plans no further action in this matter and this issue is closed.

Issue 183-7:

The waste neutralizer radiation monitor recorder was disabled due to inadequate procedure SP 2404Q and may not have been operable during a discharge.

Action:

This issue has been referred to the licensee for their review and action. You will be informed of the results.

Issue 183-8:

The NRC is not responsive to the allegers' request for information on the status of their complaints.

Action:

This concern, like a previous similar concern, will be forwarded to the NRC Office of Inspector General for review.

Enclosure: Allegations and Actions

Issue 183-9:

The NRC responses in letters dated June 28, 1991 (two letters) and July 1, 1991 (two letters) are inadequate.

Action:

The NRC can take no further action in this matter until further specific details are received. This issue is therefore closed.

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SEP 03 1991

[ ]

Dear [,

I am responding to concerns that you provided to us on July 9, 12, and 16, 1991 regarding the testing/calibration procedures and the reliability of the Millstone Unit 2 high range stack gas radiation monitors, RM-8168. On July 24, 1991 the NRC completed an inspection of Millstone Unit 2 liquid and gaseous effluent controls, including the testing/calibration procedures and reliability of RM-8168. The inspectors findings are documented in Inspection Report 50-336/91-19. Enclosed is a summary of your assertions, with the inspectors findings relative to the assertion, and a copy of the NRC report. It should be noted that the NRC report mistakenly specifies RM-8168 as RM-8186. The inspector's overall conclusions were: "A very good program to calibrate the effluent/process radiation monitors was also implemented by the I&C Department."; and, "Excellent management support to maintain the radiation monitoring system integrity and operability was also noted during the inspection." Based on the inspector's findings, the NRC plans no further action in this matter and considers the issues closed.

We appreciate you informing us of your concerns. Should you have any other questions, or if I can be of further assistance in these regards, please call me collect at (215) 337-5225.

Sincerely,

for Edward Wenzinger, Chief
Reactor Projects Branch 4

Enclosure: As stated

bcc:
Allegation file, RI-91-A-177/192-1/198
R. Bores, DRSS
E. Conner
J. Jang, DRSS
E. Kelly
W. Raymond/T. Shedlosky
EG&G Idaho Representative (ROBERTS)

N-140

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ENCLOSURE

Issue 177 (July 12,1991)

Test procedure 2404AR for the High Range Stack Gas Radiation Monitor, RM-8168, did not incorporate comparison and functional checks recommended one year ago.

NRC Inspection Findings - The "licensee upgraded Procedure SP 2404AR, Unit 2 Stack Gaseous High Range Radiation Monitor, RM-8168, Functional Tests" on July 12, 1991. Therefore, the licensee will determine the accuracy between meter, computer, and chart rather than chart recorder during the monthly functional test." The inspector also noted that the licensee's calibration technique was excellent and both the calibration and functional test results were within the licensee's acceptance criteria.

Issue 192-1 (July 9, 1991)

There is a question whether the calibration procedure (SP 2402AS) for the high range stack gas monitor (RM 8168) is correct since it does not properly check the control room recorder and indicator versus the monitor. In addition there is an uncorrected problem with the channel which causes the control room indicator to lockup. This has been a continuing problem.

NRC Inspection Findings - The "licensee upgraded Procedure SP 2404AR, Unit 2 Stack Gaseous High Range Radiation Monitor, RM-8168, Functional Tests" on July 12, 1991. Therefore, the licensee will determine the accuracy between meter, computer and chart recorder rather than chart recorder during the monthly functional test." (The NRC will review the accuracy between the three at a later date.) The inspector noted that the monitor was out of service awaiting the replacement of a power supply. The licensee will closely monitor the reliability and operability of the high range stack gas monitor.

Issue 198 (July 16, 1991)

High Range Stack Gas Monitor (RM 8168) is unreliable. It locked-up on July 12, 1991 (PM) due to power supply problem and is currently inoperable.

NRC Inspection Findings - The inspector noted that the monitor was out of service awaiting the replacement of a power supply. The licensee will closely monitor the reliability and operability of the high range stack gas monitor.

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Number 50-336/91-19

Docket Number 50-336

License Number DPR-65

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

Facility Name: Millstone Nuclear Generating Station, Unit 2

Inspection At: Waterford, Connecticut

Inspection Conducted: July 22-24, 1991

Inspector J. C. Jang 7-26-91
J. C. Jang, Sr. Radiation Specialist Date
Effluents Radiation Protection Section (ERPS)
Facilities Radiological Safety and
Safeguards Branch (FRS&SB)

Approved by : N. J. Kotter 7-31-91
R. J. Bores, Chief, ERPS, FRS&SB Date
Division of Radiation Safety and Safeguards

Inspection Summary: Special, announced inspection of the licensee's radioactive liquid and gaseous effluent control programs including: calibration and functional test of radioactive liquid and gaseous effluent/process radiation monitoring systems (RMS), and implementation of the Offsite Dose Calculation Manual.

Results: Very good routine radioactive liquid and gaseous effluent control programs were implemented by the Chemistry Department. A very good program to calibrate the effluent/process radiation monitors was also implemented by the I&C Department. Excellent management support to maintain the radiation monitoring system integrity and operability was also noted during this inspection. Within the areas inspected, no violations or deviations were identified.

DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

- J. Becker, I&C Manager
  R. Crandall, Supervisor, Radiological Assessment Branch
  T. Itteilag, Unit 2 Chemistry Supervisor
- J. Kangley, Senior Engineer, Chemistry Department
- J. Keenan, Unit 2 Director
  P. Smith, Unit 2 I&C Supervisor

1.2 NRC Personnel

- P. Habighorst, Resident Inspector
  W. Raymond, Senior Resident Inspector

- Denotes personnel who attended that exit meeting on July 24, 1991. Other licensee employees were also contacted or interviewed during this inspection.

2.0 Purpose

The purpose of this special inspection was to review the licensee's programs for the areas of liquid and gaseous effluent controls, including calibration of the effluent and process radiation monitoring systems (RMS); implementation of the Offsite Dose Calculation Manual (ODCM); and assessment of environmental impact and public health and safety.

3.0 Calibration of Effluent/Process Radiation Monitoring Systems

The inspector reviewed the licensee's most recent calibration and functional test results for the following liquid and gaseous effluent/process radiation monitors, and for the following effluent flow instrumentation to determine the implementation of the Technical Specification (TS) requirements.

- o High Range Stack Gas Radiation Monitor (RM-8186)
- o Normal Range Stack Gas Radiation Monitor (RM-8132B)
- o Waste Gas Process Radiation Monitor (RM-9095)
- o Containment Gaseous Process Radiation Monitor (RM-8123B)
- o Steam Jet Air Ejector Gaseous Radiation Monitor (RM-5099)
- o Aerated Liquid Radwaste Process Radiation Monitor (RM-9116)

- o Clean Liquid Radwaste Process Radiation Monitor (RM-9094)
- o Steam Generator Blowdown Liquid Process Radiation Monitor (RM-4262)
- o Waste Neutralization Sump Radiation Monitor (RM-245)
- o Reactor Building Closed Cooling Water Liquid Process Radiation Monitor (RM-6038)
- o Effluent Flow Instrumentation
  - Stack Flow Instrumentation (F-8412)
  - Aerated Liquid Flow Instrumentation (F-9118)
  - Clean Liquid Flow Instrumentation (F-9050)
  - Waste Neutralization Sump Flow Instrumentation (F-246)

The I&C Department had the responsibility to perform electronic and radiological calibrations for the above monitors, and to perform calibrations of the above effluent flow instrumentation. All reviewed results were within the licensee's acceptance criteria. The licensee performed calibrations and functional testss for the above radiation monitors more frequently than required by the TS as shown the following table.

RMS/Flow Inst.	TS Requirement		Licensee's Performance	
	Calibration	Functional Test	Calibration	Functional Test
RM-8186	Refueling	Monthly	Refueling	Monthly
RM-8132B	Refueling	Quarterly	Quarterly	Monthly
RM-9095	Refueling	Quarterly	Quarterly	Monthly
RM-8123B	Refueling	Quarterly	Annually	Monthly
RM-5099	Refueling	Quarterly	Quarterly	Monthly
RM-9116	Refueling	Quarterly	Quarterly	Monthly
RM-9094	Refueling	Quarterly	Quarterly	Monthly
RM-4246	Refueling	Quarterly	Quarterly	Monthly
RM-245	Refueling	Quarterly	Quarterly	Quarterly
RM-6038	Refueling	Quarterly	Quarterly	Monthly
F-8412	Refueling	Not Required	Quarterly	Quarterly
F-9118	Refueling	Quarterly	Quarterly	Quarterly
F-9050	Refueling	Quarterly	Quarterly	Quarterly
F-246	Refueling	Quarterly	Quarterly	Quarterly

During the review of the high range stack gas radiation monitor calibration results, the inspector noted that the licensee upgraded Procedure SP 2404AR, "Unit 2

Stack Gaseous High Range Radiation Monitor, RM-8186, Functional Test" on July 12, 1991. Therefore, the licensee will determine the accuracy between meter, computer, and chart recorder rather than chart recorder during the monthly functional test. This item was recommended by the Radiological Assessment Branch (RAB), Nuclear Engineering Department during the RMS Phases I and II Audits conducted in December 1988 and November 1989, respectively. Based on these audits, the RAB and the licensee issued the Radiation Monitor Manual (see combined Inspection Report Nos. 50-245/90-18, 50-336/90-20, and 50-423/90-18 for details). The inspector noted that calibration (performed on January 12, 1990) and functional test (perform on June 26, 1991) results for the high range stack gas radiation monitor were within the licensee's acceptance criteria. The inspector stated that the determination of the accuracy between meter, computer and chart recorder will be reviewed during a subsequent inspection. The inspector also noted that this monitor was out of service as of July 16, 1991 due to failure of the power supply. The licensee stated that the replacement power supply was delivered on July 23, 1991 and will be installed within a week. The licensee also stated that the reliability and operability of the high range stack gas radiation monitor will be followed closely. It should be noted that this high range stack radiation monitor was installed to monitor potential releases in the event of an accident. All Unit 2 gaseous effluents are released through the Unit 1 stack during any accident.

The inspector noted that the licensee's calibration technique for the above radiation monitors was excellent. Radiological calibrations of these monitors were performed as the primary calibration (same monitoring geometry with National Institute of Standards and Technology traceable radionuclides: Cs-137 for the liquid monitors and Kr-85 for the gaseous monitors). The inspector discussed with the licensee the benefit of the current calibration technique versus using solid sources (button sources), because the primary calibration technique requires many extra steps during the calibration. The inspector stated that using button sources is very common after the primary calibration (See ANSI N13.10-1974, "Specification and Performance of On-site Instrumentation for Continuously Monitoring Radioactivity in Effluents" for details) and is acceptable to the NRC.

Based on the above review, the inspector determined that the licensee conducted an excellent program to calibrate the effluent/process radiation monitors.

4.0 Operability and Reliability of Radiation Monitoring Systems (RMS)

Contamination of the liquid effluent monitor sample chamber is a generic problem throughout the nuclear industry. Radioactive materials will plate out on the sample chamber resulting in increased background levels. Currently there is no optimum solution. The most common practice throughout the industry is flushing the sample chamber using clean water after radioactive liquid releases to reduce background. Occasionally the sample chamber is cleaned using decontamination solution, or the chamber is replaced if the background level is too high to obtain the required monitor sensitivity. During cleaning or replacement of the chamber, additional grab samples are taken and analyzed to satisfy the TS requirement for sampling liquid effluent prior to release.

The inspector reviewed the licensee's draft investigation results regarding a high background level [as high as 12,000 counts per minute (CPM)] for the steam generator blowdown radiation monitor on May 13, 1991. The investigation results demonstrated that the actual background level (electronic noise in the RMS, ambient background, and contamination of the sample chamber) was 5,500 CPM and the actual blowdown activity was 6,500 CPM. The licensee also calculated and demonstrated that 6,500 CPM correlated well with the latest monitor calibration curve and measured blowdown grab sample activity of about 10E-5 microcuries/cc (uCi/cc) during that time period. Based on the above licensee's investigation results, the inspector had no further questions in this matter.

Although the calibration results were within the acceptance criteria, one should perform the systematic trending analysis (RMS results versus measured effluent sample activity) to assess the RMS reliability. To track the reliability of radioactive liquid and gaseous effluent monitors, the RAB and Chemistry Department initiated the trending analysis in late 1990. The inspector conducted an independent evaluation during this inspection to determine the reliability. The inspector observed the actual radioactive liquid release process performed by the Operations and Chemistry (Liquid Discharge Permit Number 2283) on July 23, 1991. A grab sample counting result using a Ge gamma spectrometry system was 4.03E-5 uCi/cc for activation/fission products (about 2% of total activity and dominated by Sb-124) and 1.79E-3 uCi/cc for noble gases (about 98% of total activity and dominated by Xe-133). The inspector expected the RMS response would be higher than the grab sample result due to the contribution of noble gases (98%) and small contribution of Cs-137 activity (about 4.5% of total activation/fission products). The licensee used Cs-137 for the calibration. The net radiation monitoring result (RM-9094) was 27,000 CPM. The inspector converted this net monitoring result to activity, as uCi/cc, using a conversion factor

(CPM/uCi/cc) of RM-9094 and compared the result to a grab sample result. The comparison between the monitoring results and the grab sample indicated that the monitoring result was higher by about a factor of 2, as expected). The inspector also compared gaseous effluent monitoring results against grab sample measurement results for 1991 and the comparisons were good.

Based on the observation and independent evaluation, the inspector determined that the RM-9094 was operable and reliable. The inspector stated that the licensee's trending analysis was an excellent tool to trend the operability and reliability of the RMS.

5.0 Radioactive Liquid and Gaseous Effluent Control Programs

The inspector reviewed selected licensee's procedures and radioactive liquid and gaseous discharge permits to determine the implementation of the TS and the Offsite Dose Calculation Manual (ODCM). The selected radioactive liquid and gaseous discharge permits were completed and dose projections were made prior to discharge as required. The inspector also determined that the reviewed discharge permits met the TS requirements for sampling and analyses at the frequencies and lower limit of detections established in the TS.

Based on these reviews, the inspector determined that the licensee has conducted an effective radioactive liquid and gaseous effluent control programs.

6.0 Assessment

The licensee has experienced daily routine difficulties, such as high background problem for the effluent monitors, purchasing of monitoring system components, and procedure upgrading in the effluent control programs. Despite of all these daily routine difficulties and corrective actions, and based on this inspection results, the inspector determined that the licensee has conducted an excellent effluent control program and there were no impacts on either the environment or the public health and safety.

7.0 Exit Interview

The inspector met with the licensee representatives denoted in Section 1.1 of this inspection report at the conclusion of the inspection on July 24, 1991. The inspector summarized the purpose, scope, and findings of the inspection.

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ALLEGATION RECEIPT REPORT

Date/Time
Received: July 2, 1991 1545

Allegation No. RI-91-A-0194

Name: [redacted]

Address: [redacted]

Phone: [redacted]

City/St./Zip: [redacted]

Confidentiality:
Was it requested? No

Alleger's Employer: [redacted]

Position/Title: [redacted]

Facility: Millstone Unit ?

Docket No.: 50-336

Allegation Summary: Unlabeled valves discovered in piping associated with radiation monitor RM 8132.

Number of Concerns: 1

Employee receiving allegation: P. J. Habighorst

Type of regulated activity: Reactor

Functional Area(s): Operations

Detailed Description of Allegation: [redacted] called the resident office to report that valve label tags were missing from two valves, 2-HV-295 and 2-HV-453. These are associated with radiation monitor RM 8132, the Unit 2 normal range ventilation stack monitor. A surveillance procedure, 2404AF, required the manipulation of these valves. Because the valves were discovered to be missing, he stopped and made a report to the operations manager.

Tom Shaw
7/2/91

N-141