0210

NORTHEAST UTILITIES

General Offices • Selden Street, Berlin, Connecticut

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

October 16, 1991

Docket No. 50-336
A09829

Re: Employee Concerns

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

Dear Mr. Hehl:

Millstone Nuclear Power Station, Unit No. 2
RI-91-A-0210

We have completed our review of an identified issue 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 transmittal letter and our response have received controlled and limited distribution on a "need-to-know" basis during the preparation of this response. Additional time in which to respond to this issue was granted by the Region I Staff in a telephone conversation on October 2, 1991.

ISSUE 210-2:

"Circuit changes had been made to the Millstone 2 main generator hydrogen monitor without the preparation of a modification package. As a result, the calibration procedure is inadequate, and appropriate procedure and drawing changes have not been made."

REQUEST:

"Please discuss the validity of the above assertion. If the above conditions are valid, please notify us of the corrective actions you have taken to prevent recurrence. Please provide us with an assessment of the safety significance of any identified deficiencies, including any generic considerations."

RESPONSE:

This assertion is valid in stating that procedure changes were not made. There is no step-by-step procedure for the calibration of this monitor. For the majority of balance-of-plant (BOP) instrumentation, calibrations are

S/7b

performed based on loop folder and vendor technical manual information. The procedure that addresses the calibration of the BOP components contains generic information only and lists the instruments to be calibrated. There is no specific step-by-step procedural guidance for the calibration of the main generator hydrogen purity indicator. Instead, the technical manual for the main generator hydrogen purity indicator (GEK 4674A--One Cell Thermal Gas Analyzer Equipment) provides calibration guidance for this model thermal gas analyzer. The technical manual also identifies the need to initially modify the circuit design to allow the optional use of a remote meter. As Millstone Unit No. 2 has such a remote meter, it is likely that this was done during the initial installation activity. It would not be expected for vendor manuals to have been revised with this information at that time.

This concern was identified to the Millstone Unit No. 2 I&C manager in late July 1991 and responded to within 2 days. During a work assignment, the need for specific procedure guidance was identified and discussed. The instrument specialist assigned to the task thought that a step-by-step procedure was needed. He also felt that changes may have been made and not properly documented. The work activity was stopped before any calibration efforts were undertaken. The I&C manager's response indicated that a procedure would be developed and any documentation deficiencies would be addressed. This verification and modification of the documentation will be a department activity carried out as part of the procedure upgrade program and is expected to be completed in 1992.

The lack of a step-by-step procedure for the main generator hydrogen purity indicator does not compromise nuclear safety. The existing vendor manual instruction contains adequate guidance, and the monitor performs no safety related function. No modification deficiencies or generic issues have been identified.

We appreciate the opportunity to respond and explain the basis of our actions. Please contact my staff if there are further questions on any of these matters.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: Edward J. Mroczka
Senior Vice President

BY: _____
J. F. Opeka
Executive 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
J. T. Shedlosky, U.S. Nuclear Regulatory Commission, Millstone

#0219

NAMCO
Because nothing else works better.

Namco Controls
7567 Tyler Boulevard
Mentor, Ohio 44060
(216) 946-9900
Telex 24-1566
Fax (216) 946-1228

April 7, 1989

This is a new approach to EQ maintenance. ASCO should follow this approach also, I hope.

Mr. Donald E. Moody
Station Manager
New Hampshire Yankee Division
Seabrook Station
P. O. Box 300
Seabrook, New Hampshire 03874

Dear Mr. Moody:

After a comprehensive review of Namco's involvement in Maintenance Training, Maintenance Procedures and Maintenance Kits programs and in anticipation of increased regulatory and nuclear power industry requirements, Namco no longer recommends maintenance teardown and replacement of parts in its nuclear qualified limit switches.

In keeping with this decision, Namco will no longer supply maintenance kits with two exceptions: The Top Cover Gasket Kits and O'Ring Replacement Kits for Connector/Cable Assemblies.

This action is effective immediately.

Namco believes it is in the best interest of the operators of nuclear power generation plants as well as Namco to do so. Namco has found it commercially, economically and technically impractical to continue to support the maintenance of its limit switches. In the long term, this decision is expected to provide savings to the utilities in their overall maintenance programs.

At the end of the qualified life of a given Namco product, it should be replaced with a new and identical qualified product. The appropriate Namco Qualification Test Report should be consulted for the qualified life of the product in question.

Namco wishes to assure you that it will continue to offer a full line of qualified limit switches and connector seals.

We ask that the people who have a need to know within your organization be advised of this change in Namco's operating policy.

Very truly yours,

E. L. Roob
Product & Marketing Manager
Industry Products

ELR/msg

5/78

John Humphreys – Thanks for info 2/21

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NORTHEAST UTILITIES

The Connecticut Light And Power Company
Western Massachusetts Electric Company
Holyoke Water Power Company
Northeast Utilities Service Company
Northeast Nuclear Energy Company

MEMO

February 20, 1991
MM-91-028

TO: Bob Rowe
MP2 Maintenance Supervisor

FROM: John Humphreys
MP2 Maintenance

SUBJECT: ASCO Solenoid Valves and Namco Limit Switches

REFERENCES: 1. ASCO Service Bulletin, Discontinuation of Rebuild Kits for ASCO "NP" Series Valves, Dated May 23, 1989

2. Namco Letter, E. L. Roob to Donald E. Moody, Dated April 7, 1989

References (1) and (2) indicate that ASCO and Namco will no longer support general tear down and replacement of component parts for their solenoid valves and limit switches. In keeping with this change in philosophy, I recommend the following:

1. MP 2720S – ASCO Solenoid Spare Parts Kit Installation (EQ), be revised to delete information concerning installation of the spare parts kits. The procedure should provide instructions for SOV replacement and replacement of the SOV coil.

2. MP 2720R1 – Namco Limit Switch Maintenance (EQ), be revised to delete information concerning installation of the various spare parts kits. The procedure should address limit switch inspection, replacement and installation of top cover gaskets. } Caution a EQ Grade instead

3. The PMMS data base for ASCO solenoid valves be completed and sufficient quantities of spare coils and solenoid valves be ordered and placed on repeating requisitions.

4. The PMMS data base for valves with Namco limit switches be completed and sufficient quantities of spare limit switches be ordered and placed on repeating requisitions.

Attached is a list of ASCO solenoid valves and Namco limit switches that was prepared by Chris Ferris. The list may not be complete, but at least it is a start. Dave Knopf is providing a list of Cat 1 and EEQ solenoid valve BOMs for verification.

cc: J. Riley
J. Scheeler

5/79

(66)

SAMPLE RECORD OF ALLEGATION PANEL DECISIONS

SITE: Millstone
ALLEGATION NO.: RI-91-A-0219
DATE: 23Aug91 (Panel No. (1) 2 3 4 5)
PRIORITY: High (Medium) Low
SAFETY SIGNIFICANCE: Yes No (Unkn)
CONCURRENCE
TO CLOSEOUT: DD BC (SC)
CONFIDENTIALITY GRANTED: Yes (No)
(See Allegation Receipt Report)

PANEL ATTENDEES:
Chairman - Hehl
Branch Chief -
Section Chief (AOC) - Kelly
Sr. Allegation Coord (SAC) Fuhrmeister
OI Representative - C. White
(Other) Anderson

IS THERE A HARASSMENT/DISCRIMINATION ISSUE: Yes (No)

IF YES,

1) has the individual been informed of the DOL process and the need to file a complaint within 30 days — Yes No
2) has the individual filed a complaint with DOL — Yes No
3) has a letter been sent to the complainant seeking any safety concerns — Yes No

IS A CHILLING EFFECT LETTER WARRANTED: Yes (No)
IF YES, HAS IT BEEN SENT — Yes No
HAS THE LICENSEE RESPONDED TO THE CHILLING EFFECT LETTER: Yes No

ACTION:

1) Issue 1 (Namco): Tom to ask what NU is doing about issue. Refer formally in a letter.
Issue 2) Turnover to licensee, DRSS Inspect when there for the exercise preps
Issue 3) [redacted] Review internal audit, call named engineer and ask him specifically what the problem is
4)
5)

NOTES:

A4-1

5/80

SAMPLE RECORD OF ALLEGATION PANEL DECISIONS

SITE: Millstone
ALLEGATION NO.: RI-91-A-0219
DATE: 23Aug91 (Panel No. (1) 2 3 4 5)
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TO CLOSEOUT: DD BC (SC)
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(Other) Anderson

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Issue 2) Turnover to licensee, DRSS Inspect when there for the exercise preps
Issue 3) ~~Issue~~ Review internal audit, call named engineer and ask him specifically what the problem is
4)
5)

NOTES:

5/81

(63)

from the desk of

8/26/91

GENE KELLY

To: Bill Hehl / Jim Wiggins

Telecon with Mr. Paul Blanchard / NRC

Reference: Allegation RI-A-91-0219 (item 3)

Per the panel's decision on 8/22, I contacted Mr. Blanchard to discuss the alleged problems with "Appendix R" power supplies.

Mr. Blanchard stated that the issue does involve "serious safety concerns" which ... need looking into" regarding Millstone 1 Reg. Guide 1.97 Flow instrumentation for LPCI and Core Spray. This concern is for single failure potential of these instruments - all powered from the same vital bus - relied upon for EOP decision-making on throttling LPCI/CS flow because of well known NPSH considerations (torus temperature concerns).

Mr. Blanchard did state that he felt this issue was being appropriately

cover 5/8/96

(65)

August 27, 1991

MEMORANDUM FOR FILE

TELECON R. BLANCH to D. DEMPSEY: August 27, 1991 @ 9:10 a.m.

Mr. Blanch called me regarding an allegation which concerned Appendix R instrumentation power supplies at Millstone 1. Mr. Blanch stated that the allegation is in error in that there are no Appendix R audit problems associated with instrumentation power supplies of which he is aware. He has been assigned a project dealing with Regulatory Guide 1.97 instrumentation. Mr. Blanch made the following points:

-- NUSCO has identified no safety or non-compliance issues associated with RG 1.97 at this time. However, there are questions associated with lack of redundant power supplies to LPCI and CS flow instruments which are being addressed, among others, on a priority basis. (Instrument AC power supply--single shared breaker)

-- By original design little manual operator action was required to operate LPCI/CS systems during design basis events. Hence, a common power supply was specified. Since the advent of LPCI heat exchanger flow limits, new and higher post-accident torus temperatures, and revision 4 EOPS, operators now rely more on these flow instruments to guide manual actions. Hence, redundant power supplies may be appropriate.

-- LPCI/CS flows are not Type A variables at this time. They are being reevaluated at this time.

-- The focus of the RG 1.97 project goes beyond the compliance issue to that of the ability of the systems to perform the safety function given the worst single failure. A recent operability determination (REF) resulted in a finding that the systems were operable.

Mr. Blanch also discussed briefly the recent unusual event at Millstone which involved loss of emergency assessment capability. During the hurricane, the Berlin computor mainframe was lost resulting in dumping of dose assessment formulas, weather information, OFIS, etc. He indicated that there was some resistance at the corporate EOF to declare the UE since backup methods supposedly available. At any rate, Mr. Blanch stated that management is giving the computor issue appropriate attention now.

ASSESSMENT: There are no new allegations. The purpose of the conversation was to clarify information previously identified to NRC.

Allegation item number 6 of August 14, 1991 @ 1300

5/83

from TVA regarding Unit 1 Appendix R Instrument power supplies should be closed as unsubstantiated.

(68)

from the desk of GENE KELLY 9/9/91

To: Joyner, Lazarus, Amato

Subject: Millstone Allegations 91-219 & 236

Re allegations @ Millstone assert problems w/ the reliability of Data and the EDG diesel generators for Emergency Response Facilities @ Northeast Utilities.

Re allegation Panel recommended inclusion of an Inspection for these as part of the EP Exercise scheduled during the week of September 23rd.

Your support is appreciated

Gene

cc Cooper, Wiggins, Rayond

5/84

(59)

A L L E G A T I O N M A N A G E M E N T S Y S T E M

ALLEGATION NUMBER - RI-91-A-0219 RUN DATE: 09/11/91

DOCKET/FACILITY/UNIT: 05000336 / MILLSTONE 2 / 2
DOCKET/FACILITY/UNIT: 05000245 / MILLSTONE 1 / 1
DOCKET/FACILITY/UNIT: / /
DOCKET/FACILITY/UNIT: / /

ACTIVITY TYPES - REACTOR

MATERIAL LICENSES -

FUNCTIONAL AREAS - OPERATIONS

DESCRIPTION - 1) VENDOR INFORMATION RELATED TO EQ MAINTENANCE (NAMCO SWITCHES AND VALVES) NOT INCORPORATED IN TIMELY MANNER
2) EOF DIESEL LOAD TEST PROCEDURE INADEQUATE AND NOT PROPERLY IMPLEMENTED.
CONCERNS - 3
3) NO REDUNDANCY EXISTS FOR APPENDIX R POWER SUPPLIES FOR UNIT 1 (ASSOCIATED WITH INSTRUMENTATION)

SOURCE - LICENSEE EMPLOYEE CONFIDENT - NO

RECEIVED - 910814 BY - PJ HABIGHORST / RI

ACTION OFFICE CONTACT - EM KELLY - (FTS)346-5183

SAFETY SIGNIFICANCE - UNKNOWN BOARD NOTIFICATION - NO

STATUS - OPEN SCHED COMPLETION - 911231 DATE CLOSED -

ALLEGATION SUBSTANTIATED - ALLEGER NOTIFIED -

OI ACTION - OI REPORT NUMBER -
REMARKS - ALLEGER PROVIDED COPIES OF INTERNAL MEMORANDA AND PROCEDURES TO SUPPORT HIS CLAIM.__PANELED 23AUG91.

SUPPORT OFFICE: RPS-4A
ACTION PENDING: REFER TO LICENSEE
DOCUMENTATION:
ALLEGER LAST CONTACTED: 14AUG91
REFERENCE:
KEYWORD: PROCEDURES

ENTERED SYSTEM - 910822 CLOSED SYSTEM - RECORD CHANGED - 910823

5/85

TNU 10/9/91

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Issue 91-219-01

Changes to vendor maintenance and surveillance instructions are not evaluated and needed procedure changes are not being made in a timely manner. In particular, MP 2720R1, NAMCO Limit Switch Maintenance (EQ), references NAMCO EA 189-90051 (December, 1980) whereas the vendor has superseded EA 189-90051 with EA 189-90060 (February 4, 1991). This new information warns that removal of the bottom cover of the limit switch will negate the qualification (EEQ). In addition, NU was notified in May, 1989 that the vendor would no longer support re-work and spare part kits for their solenoid valves and limit switches. The concern is that key craft personnel are not aware of these changes.

Issue 91-219-02

MP 2722B, Annual EOF Diesel Generator Load Run, is deficient in that the division of work responsibilities among electricians, mechanics, and contractors have never been evaluated as appropriate. Further, AWO M2-89-09594, for the annual load test, does not reference MP 2722B or the other controlling procedure, EPIP 4303, and, there appears to be the following discrepancies in the drawings associated with the test:

1) Electrical circuit breaker positions on electrical panels KLP1 and KLP2 do not agree with drawing 25205-30007. Circuit breaker No. 26 is in question on ELP1; breakers 10 and 12 are in question on ELP2;

2) An electrical remote control panel, PN1 is shown on drawing 25205-30007; but does not appear to exist;

3) The schematic portion of drawing 25205-39002, sheet 3 (or 25205-32008) appears incorrect and is confusing;

4) A utility plug is located at the bottom of the electrical power distribution system automatic bus transfer device (ABT). This conflicts with drawing 25205-32008;

5) The vendor representative and mechanic involved with the annual load test of the EOF emergency diesel generator are not qualified to perform the electrical portions of the test; and,

6) The review of procedures made by PORC is inadequate.

Request:

Please discuss the validity of the above assertions. If any deficiencies are identified, please provide us with the corrective actions you have taken to prevent recurrence. Please provide us with an assessment of the significance with regard to safety of any identified deficiencies.

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5/87

NORTHEAST UTILITIES SERVICE COMPANY

MILLSTONE POINT UNIT 2

EQ MASTER LIST
REVISION NO. 2

Sorted by Component Type

PLANT ID NO		COMPONENT TYPE	EQ ZONE	MANUFACTURER	MODEL NUMBER	EEQ FILE	DUAL LEVEL	NOTES
ZS-6731	(1)	LIMIT SWITCH	A-2	NAMCO	EA740-20100	-125	0588	Vlv RB-68.1A
ZS-6731	(2)	LIMIT SWITCH	A-2	NAMCO	EA740-20100	-125	0588	Vlv RB-68.1A NA
ZS-6735	(1)	LIMIT SWITCH	A-3	NAMCO	EA740-20100	-125	0588	Vlv RB-68.1B
ZS-6735	(2)	LIMIT SWITCH	A-3	NAMCO	EA740-20100	-125	0588	Vlv RB-68.1B NA
ZS-7311	( )	LIMIT SWITCH	A-18	NAMCO	EA-740-20100	-125	0588	Vlv FMN-43E NA
ZS-7312	(1)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv SI-312
ZS-7312	(2)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv SI-312 NA
ZS-7690	( )	LIMIT SWITCH	A-18	NAMCO	EA-740-20100	-125	0588	Vlv RC-45
ZS-8082	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv AC-5 NA
ZS-8121	(1)	LIMIT SWITCH	A-50	NAMCO	EA-180-11302	-109	0588	Vlv AC-47
ZS-8121	(2)	LIMIT SWITCH	A-50	NAMCO	EA-180-12302	-109	0588	Vlv AC-47 NA
ZS-8122	(1)	LIMIT SWITCH	A-51	NAMCO	EA-180-11302	-109	0588	Vlv AC-12
ZS-8122	(2)	LIMIT SWITCH	A-51	NAMCO	EA-180-12302	-109	0588	Vlv AC-12 NA
ZS-8124	(1)	LIMIT SWITCH	A-51	NAMCO	EA-180-11302	-109	0588	Vlv AC-15
ZS-8124	(2)	LIMIT SWITCH	A-51	NAMCO	EA-180-12302	-109	0588	Vlv AC-15 NA
ZS-8125	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv AC-6 NA
ZS-8150	(1)	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv EB-88
ZS-8150	(2)	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv EB-88 NA
ZS-8151	(1)	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv EB-89
ZS-8151	(2)	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv EB-89 NA
ZS-8306A	(1)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-326
ZS-8306A	(2)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-326 NA
ZS-8306B	(1)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-325
ZS-8306B	(2)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-325 NA
ZS-8306C	(1)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-328
ZS-8306C	(2)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-328 NA
ZS-8306D	(1)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-327
ZS-8306D	(2)	LIMIT SWITCH	A-2	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-327 NA
ZS-8312A	(1)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-314
ZS-8312A	(2)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-314 NA
ZS-8312B	(1)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-313
ZS-8312B	(2)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-313 NA
ZS-8312C	(1)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-315
ZS-8312C	(2)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-315 NA
ZS-8312D	(1)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-316
ZS-8312D	(2)	LIMIT SWITCH	A-3	MICRO SWITCH	LSK-4L-BC	-164	DOR	Dmpr HV-316 NA
ZS-8377	(1)	LIMIT SWITCH	A-50	NAMCO	EA-740-80000	-125	0588	Vlv EB-99
ZS-8377	(2)	LIMIT SWITCH	A-50	NAMCO	EA-740-80000	-125	0588	Vlv EB-99 NA
ZS-8377	(3)	LIMIT SWITCH	A-50	NAMCO	EA-740-80001	-125	0588	Vlv EB-99
ZS-8378	(1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv EB-100
ZS-8378	(2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv EB-100 NA
ZS-8379	(1)	LIMIT SWITCH	A-50	NAMCO	EA-740-80000	-125	0588	Vlv EB-92
ZS-8379	(2)	LIMIT SWITCH	A-50	NAMCO	EA-740-80000	-125	0588	Vlv EB-92 NA
ZS-8379	(3)	LIMIT SWITCH	A-50	NAMCO	EA-740-80001	-125	0588	Vlv EB-92

5/88

MILLSTONE POINT UNIT 2

E Q M A S T E R L I S T

REVISION NO. 2

Sorted by Component Type

PLANT ID NO		COMPONENT TYPE	EQ ZONE	MANUFACTURER	MODEL NUMBER	EEQ FILE	QUAL LEVEL	NOTES
ZS- 198	(1)	LIMIT SWITCH	A-18	NAMCO	EA-740-20000	-125	0588	Vlv CH-198 91-7
ZS- 198	(2)	LIMIT SWITCH	A-18	NAMCO	EA-740-20001	-125	0588	Vlv CH-198
ZS- 505	( )	LIMIT SWITCH	A-18	NAMCO	EA-740-20100	-125	0588	Vlv CH-505
ZS- 506	(1)	LIMIT SWITCH	C-05	NAMCO	EA 740	-125	0588	Vlv CH-506 NA
ZS- 506	(2)	LIMIT SWITCH	C-05	NAMCO	EA 740	-125	0588	Vlv CH-506
ZS- 515	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv CH-515 NA
ZS- 516	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv CH-516 N
ZS- 517	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv CH-517 NA
ZS- 518	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv CH-518 N
ZS- 519	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv CH-519 N
ZS- 614	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv SI-614 N
ZS- 618	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv SI-618 N
ZS- 624	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv SI-624 N
ZS- 628	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv SI-628 N
ZS- 634	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	91-5434 -109	0588	Vlv SI-634
ZS- 638	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	91-8230 -109	0588	Vlv SI-638
ZS- 644	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv SI-644 N
ZS- 648	( )	LIMIT SWITCH	C-05	NAMCO	EA-180	-109	0588	Vlv SI-648 N
ZS-1060	(1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv RC-003 N
ZS-1060	(2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv RC-003
ZS-1062	(1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv RC-002
ZS-1062	(2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv RC-002 N
ZS-1064	(1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv RC-001
ZS-1064	(2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv RC-001 N
ZS-2525	( )	LIMIT SWITCH	A-18	NAMCO	EA180-11302	-109	0588	Vlv CH-089 N
ZS-4246	(1)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv MS-220A 91-
ZS-4246	(2)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv MS-220A
ZS-4248	(1)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv MS-220B
ZS-4248	(2)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv MS-220B N
ZS-4250	( )	LIMIT SWITCH	A-18	NAMCO	EA180-11302	-109	0588	Vlv MS-191A N
ZS-4251	( )	LIMIT SWITCH	A-18	NAMCO	EA180-11302	-109	0588	Vlv MS-191B N
ZS-5276	(1)	LIMIT SWITCH	T-10	NAMCO	EA180-11302	-109	0588	Vlv FW-43A
ZS-5276	(2)	LIMIT SWITCH	T-10	NAMCO	EA180-11302	-109	0588	Vlv FW-43A N
ZS-5279	(1)	LIMIT SWITCH	T-10	NAMCO	EA180-11302	-109	0588	Vlv FW-43B
ZS-5279	(2)	LIMIT SWITCH	T-10	NAMCO	EA180-11302	-109	0588	Vlv FW-43B N
ZS-6050	(1)	LIMIT SWITCH	A-2	NAMCO	EA740-20100	-125	0588	Vlv RB-13.1A
ZS-6050	(2)	LIMIT SWITCH	A-2	NAMCO	EA740-20100	-125	0588	Vlv RB-13.1A N
ZS-6080	( )	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv RB-28.3A N
ZS-6084	( )	LIMIT SWITCH	A-18	NAMCO	EA-740-20100	-125	0588	Vlv RB-28.3B N
ZS-6088	( )	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv RB-28.3C N
ZS-6092	( )	LIMIT SWITCH	A-18	NAMCO	EA-740-20100	-125	0588	Vlv RB-28.3D N
ZS-6306	( )	LIMIT SWITCH	A-18	NAMCO	EA-180	-109	0588	Vlv SW-8.1C N
ZS-6307	( )	LIMIT SWITCH	A-18	NAMCO	EA-180	-109	0588	Vlv SW-8.1B N
ZS-6308	( )	LIMIT SWITCH	A-18	NAMCO	EA-180	-109	0588	Vlv SW-8.1A N

MILLSTONE POINT UNIT 2

E Q M A S T E R L I S T
REVISION NO. 2

Sorted by Component Type

PLANT ID NO	COMPONENT TYPE	EQ ZONE	MANUFACTURER	MODEL NUMBER	EEQ FILE	QUAL LEVEL	NOTES
ZS-8380 (1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv EB-91
ZS-8380 (2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv EB-91
ZS-8656 (1)	LIMIT SWITCH	A-50	NAMCO	EA180-32302	-109	0588	Vlv AC-20
ZS-8656 (2)	LIMIT SWITCH	A-50	NAMCO	EA180-32302	-109	0588	Vlv AC-20
ZS-9015 (1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv LRR-43.1
ZS-9015 (2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv LRR-43.1
ZS-9016 (1)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv LRR-43.2
ZS-9016 (2)	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv LRR-43.2
ZS-9125 (1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv GR-11.1
ZS-9125 (2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv GR-11.1
ZS-9126 ( )	LIMIT SWITCH	A-17	NAMCO	EA-740-20100	-125	0588	Vlv GR-11.2
ZS-9150 (1)	LIMIT SWITCH	A-18	NAMCO	EA-740-20100	-125	0588	Vlv SSP-16.2
ZS-9150 (2)	LIMIT SWITCH	A-18	NAMCO	EA-740-20100	-125	0588	Vlv SSP-16.2
ZS-9151 (1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv SSP-16.1
ZS-9151 (2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv SSP-16.1
ZS-9230 (1)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv LRR-61.1
ZS-9230 (2)	LIMIT SWITCH	C-05	NAMCO	EA-740	-125	0588	Vlv LRR-61.1
ZS-9506 ( )	LIMIT SWITCH	A-52	NAMCO	EA180-21302/22302	-109	0588	Depr HV-495
ZS-9507 ( )	LIMIT SWITCH	A-52	NAMCO	EA180-21302/22302	-109	0588	Depr HV-496
ZS-9508 ( )	LIMIT SWITCH	A-52	NAMCO	EA180-21302/22302	-109	0588	Depr HV-497

GENERAL EQUIPMENT-HISTORY REPORT

W.O. ..: M2 91 03533
TR NO..: 05M2143953

EQUIPMENT DESCRIPTION: #1 STEAM GENERATOR BLOWDOWN CONTROL VALVE ASSEMBLY

DATE COMPLETED: 08/23/91

FMMS ID: M2 02 STG ADV CNL [illegible]
LOCAL ID: M2 2-MS-[illegible]
LOCAL SYS: 2316

PROBLEM DESC: VALVE POSITION INDICATOR LIMIT SWITCH ACTUATOR DOES NOT WORK PROPERLY. REPEATEDLY HAVE DUAL INDICATION AFTER CYCLING VALVE

SUSPECTED CAUSE...:

ORIGINATOR.....: M SANDERS ORIGINATING DEPARTMENT.: OPS
DATE ORIGINATED..: 04/05/91

JOB DESC: 1) ADJUST LIMIT SWITCHS ONLY. IF OTHER WORK IS REQUIRED CONTACT PMMS FOR A NEW AWO.

CAUSE OF PROBLEM:

FAILURE CODE:

DELAYS / COMMENTS:
DELAY CODE..:

JOB SUPERVISOR: R BAGOS

WORK PERF BY : R BAGOS R CASTLE K PICKLES

SPECIAL EQUIPMENT..:
SERIAL NUMBER.....:

PROJECT REFERENCE..: SDWL11E
PROJECT DESCRIPTION:

	PROCEDURES	CAUTIONS	CAUTION NOTES
PLANT TAG.: Y	SPEWS-49-B	SECTION XI	IF JOB SCOPE CHANGES, CONT
CONVEX TAG: N	SPEWS-50-B		ENGINEER FOR SECTION XI RE
	EVAL:CD-190		

AU CCC ACC SU C CMS W.O. ACT RE AC%

P.O. NO.:
ACCOUNTS.: FDCR NO.:

ACTUAL WORK / REMARKS / PARTS USED : VALVE WORKS FINE

GENERAL EQUIPMENT-HISTORY REPORT

W.O. ..: M2 91 08230
TR NO..: 07M2135031

EQUIPMENT DESCRIPTION: LOOP "2A" NON-RETURN CHECK LEAKOFF DRAIN STOP VALVE

DATE COMPLETED: 08/08/91

PMMS ID: M2 02 HP1 AOP DRN 2-SI-8
LOCAL ID: M2 2-SI-8818
LOCAL SYS: 2208

PROBLEM DESC: DUEL IND. ON VALVE WITH FULL CLOSED SIGNAL FROM CONTROLLOR.

PRP 035761

SUSPCTD
CAUSE...:

ORIGINATOR.....: M RADICE ORIGINATING DEPARTMENT.: OPS
DATE ORIGINATED..: 08/07/91

JOB DESC: 1) TRBLSHOOT DUAL INDICATION.
2) ADJUST LIMIT SWITCHES AS NECESSARY TO RECTIFY PROBLEM.
3) IF FURTHER REPAIRS ARE REQUIRED, RETURN TO QSD FOR APPROVAL.
4) PERFORM REPAIRS AS INDICATED NECESSARY FROM TRBLSHOOTING.

CAUSE OF PROBLEM: COMMENTS: WOULD HAVE INSTRUCTED THEM TO PRESS THE RESET AFTER A POWER LOSS.

FAILURE CODE:

DELAYS / COMMENTS: SUCCESS WAS THWARTED ON FIRST 2 ENTRIES DUE TO AWO
DELAY CODE..: STICKER BEING PLACED OVER WARNING TO OPERATORS THAT

JOB SUPERVISOR: J HEISLER

WORK : J HEISLER R CASTLE
PERF BY :

SPECIAL EQUIPMENT..:
SERIAL NUMBER.....:

PROJECT REFERENCE..: SDWL11D
PROJECT DESCRIPTION: 4280/90040

	PROCEDURES	CAUTIONS	CAUTION NOTES
PLANT TAG.: N	2720R		THIS WORK ORDER IS QSD RE
CONVEX TAG: N	SPEWS-10-A		TO ACP-QA-2.16, PG.21, IT
	EVAL:CD-180		

AU CCC ACC SU C CMS W.O. ACT RE ACT

P.O. NO.:
PDCR NO.:

ACCOUNTS.:

ACTUAL WORK / REMARKS / PARTS USED : MADE 3 ENTRIES INTO CTMT TO TROUBLESHOOT AND ADJUST VALVE INDICATION. ON 3RD ENTRY ADJUSTED LIMIT SWITCH ARM TO GIVE PROPER INDICATION AND OPS RETESTED AND TIMED VALVE OPERATION SAT. NO EEQ BOUNDARIES WERE BREACHED.

GENERAL EQUIPMENT HISTORY REPORT

W.O. ..: MC 91 05434
TR NO..: 2-MC-140317

EQUIPMENT DESCRIPTION: LOOP "2A" NON-RETURN CHECK LEAKOFF DRAIN STOP VALVE

DATE COMPLETED: 06/04/91

PNMS ID: MC 02 HFI ACC NON 2-61
LOCAL ID: MC 2-61-630
LOCAL SYS: 2300

PROBLEM DESC: VALVE HAS DUAL INDICATION ON CO-2. PR# 36358

SUSPCID
CAUSE...:

ORIGINATOR.....: S BAKER
DATE ORIGINATED..: 05/26/91

ORIGINATING DEPARTMENT.: MMS

JOB DESC: 1) INVESTIGATE AND ADJUST LIMIT SWITCHES TO PROVIDE ACCURATE VALVE POSITION

NOTE-MAKE ADJUSTMENTS ONLY REPAIRS REQUIRE A 3 PAGE AWO

CAUSE OF PROBLEM:

FAILURE CODE:

DELAYS / COMMENTS:
DELAY CODE..:

JOB SUPERVISOR: R BAGOS

WORK : T O'SULLIVAN B STANGLE
PERF BY :

SPECIAL EQUIPMENT..:
SERIAL NUMBER.....:

PROJECT REFERENCE..: SDWL11B
PROJECT DESCRIPTION:

9208900440

	PROCEDURES	CAUTIONS	CAUTION NOTE
PLANT TAG.: N	2701J-40		
CONVEX TAG: N	2702B2		
	2720R		

AU CCC ACC SU C CMS W.O. ACT RE ACT
72

P.O. NO.:
PDCR NO.:

ACCOUNTS.:

ACTUAL WORK / REMARKS / PARTS USED : CYCLED THE VALVE 4 TIMES AND INDICTED CORRECTLY. ADJUSTED SWITCH. NEEDS MORE FINE TUNING. ADJUSTED LIMIT SWITCH.

GENERAL EQUIPMENT HISTORY REPORT

W.O. ..: M2 91 07730
TR NO..: 24M2144957

EQUIPMENT DESCRIPTION: REACTOR COOLANT PUMPS BLEADOFF CONTROL VALVE ASSEMB

DATE COMPLETED: 08/27/91

PMMS ID: M2 0[illegible] CVC A0V [illegible]
LOCAL ID: M2 2-CH-198
LOCAL SYS: 2304A

PROBLEM DESC: GREEN LIGHT LIT ON COC W/ VALVE 1/2 OPEN (SHOULD BE OUT). LIMIT SWITCH(ES) NEED ADJUSTING.

P.R. #06162

SUSPECTD
CAUSE...:

ORIGINATOR.....: K NASH ORIGINATING DEPARTMENT.: OPS
DATE ORIGINATED..: 07/24/91

JOB DESC: 1) ADJUST LIMIT SWITCHES TO INDICATE PROPER POSITION
IF LIMIT SWITCHES REQUIRE DISCONNECTING, RETURN PMG TO PMMS/ENGR.

CAUSE OF PROBLEM:

FAILURE CODE:

DELAYS / COMMENTS: GREEN LIGHT SHOULD REMAIN LIT UNITL VALVE'S
DELAY CODE..: FULLY OPEN.

JOB SUPERVISOR: R BAGOS

WORK : R BAGOS R CASTLE
PERF BY :

SPECIAL EQUIPMENT..:
SERIAL NUMBER.....:

PROJECT REFERENCE..: SDWL11E
PROJECT DESCRIPTION:

	PROCEDURES	CAUTIONS	CAUTION NOTES
PLANT TAG.: N	EVAL:CD-179		
CONVEX TAG: N	NOTIFY-ENG		

AU CCC ACC SU C CMS W.O. ACT RE AC%

P.O. NO.:
ACCOUNTS.: PDCR NO.:

ACTUAL WORK / REMARKS / PARTS USED : INVESTIGATED PROBLEM, FOUND VALVE TO BE WORKING PER PRINT #25203-32009, SH. 30. GREEN LIGHT SHOULD BE ON UNTIL VALVE IS FULLY OPEN.

(74)

PIR INVESTIGATION
NOT REPORTABLE

TO: Brendan J. Duffy

FROM: Unit 2 PIR Report Coordinator (Tel. x4423)

You have been assigned as investigator for PIR 91-117, dated 10/31/91.

This PIR has been initially assessed to be not reportable under 10CFR50.73. To support the PIR adminstrative routing process, a timely response is imperative. The PIR investigation is to be completed by 02/16/92.

INSTRUCTIONS FOR PIR INVESTIGATORS

1. Per ACP-QA-10.01, 6.2.4, the assigned Investigator shall

   a. Complete Section 3 of the PIR.

   b. Verify (if applicable) the use of emergency operating procedures and document their review and use.

2. Ensure that if a PIR is generated due to a failure of any RPS/ESF channel on a quarterly test program, that an evaluation for a common cause mode will be performed under the ICR program IC 2437A.

3. Section III of the PIR must be filled out in its entirety. All PIRs that require PORC approval must be reviewed by the appropriate department head prior to PORC presentation.

4. Particular attention should be payed to identifying correctly the root cause of the event. The root cause may be defined as "the cause which, had it been prevented, would have prevented the event."

   NOTE: If, during the course of your investigaiton, you determine that this event may be reportable, notify the Unit 2 Operations Manager or Duty Officer.

5. Forward the completed PIR investigation to the report coordinator.

cc: LER Coordinator, S. E. Scace, R. J. Factora, S. M. Temple

5/89

Richard P. Decker — 11/5/91 — 91-09

FORM APPROVED/BY DIRECTOR, MILLSTONE STATION — EFFECTIVE DATE — SORC MTG. NO

PLANT INCIDENT REPORT - PART A

Report Date: 11/1/91 No 91-117

I. PIR INITIATION

INCIDENT DATE 10/31/91 INCIDENT TIME 1330

Event Title: EOF DIESEL GENERATOR FAILURE TO LOAD

Description of Event: EOF DIESEL GENERATOR FAILED TO LOAD AUTOMATICLY DURING SURVEILLANCE EPIP-4606

Description of Cause (If known): DIRTY CONTROL CIRCUIT CONTACTS.

System Affected	System Number	PMMS ID Number	Name of Initiator	Signature
EOF	N/A	N/A	D. MOONEY	D Mooney

II. PLANT INFORMATION

Plant Conditions: Mode 1 Power(%) 100 Temp 575 Pressure 2262

Description of Initial Action: NOTIFIED MAINTANENCE

Safety Implications: EOF BACKUP POWER NOT AVAILABLE

Security Implications: NONE

Incident Category:
- ☐ A. Immediate
- ☐ B. 30-Day LER
- ☐ C. Public Interest
- ☒ D. Not reportable to NRC
- ☐ D. Fitness for Duty

Basis: EPIP-4701-4 pg 12 sect. XII

Operations Manager Notified (Normal Hours) of A,B,C Incidents: ☐ Yes ☐ No Name: N/A Date: N/A Time: N/A

Duty Officer Notified: ☒ Yes ☐ No Name: B. DUFFY Date: 10/31/91 Time: 1400

SSSA Notified and EPIP 4112 Notifications Made: ☐ Yes ☒ No Name: N/A Date: N/A Time: N/A

Security Shift Supervisor (Potential Security Threat): ☐ Yes ☒ No Name: N/A Date: N/A Time: N/A

Procedures Used: EPIP-4606 Shift Supervisor Signature: D Mooney Date: 11/01/91

III. INVESTIGATION INFORMATION

Personnel Questionnaires Attached: ☒ Yes ☐ No List: S. SCHLACHTER & J. HEISLER

Trouble Reports Submitted: ☒ Yes ☐ No Procedure Changes: NONE

Photographs: ☐ Yes ☒ No Material Being Held: ☐ Yes ☒ No Location: N/A

AWO Cop. Attached: ☐ Yes ☒ No Safety Tag Sheet Copy Attached: ☐ Yes ☒ No

Information Gathered By: B. MOONEY Signature: D Mooney Date: 11/01/91

IV. DUTY OFFICER REVIEW

Immediate Investigation Necessary: ☒ Yes ☐ No Signature: Brendan Date: 11/1/91

V. UNIT DIRECTOR

Assigned Incident Category: ☐A ☐B ☐C ☒D ☐E ☐PSSH

Remarks:

PORC Review: ☐ Yes ☒ No NRB Review: ☐ Yes ☒ No NEO's Initiated: ☐ Yes ☒ No

Investigator Assigned: B Duffy Unit Director: John S Keenan Date: 12/3/91

Ref: ACP-QA-10.01

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PLANT INCIDENT REPORT - PART B

PERSONNEL QUESTIONNAIRE

NAME _____ POSITION _____
(PRINT)

PLANT EVENT TITLE _____

EVENT DATE/TIME _____

PIR NUMBER (IF KNOWN) _____

1. Describe the event:

2. When did you know there was a problem, and how did you find out?

3. What were your actions?

4. What could be done or changed to prevent this problem from happening again?

5. Any other information you consider important:

_____ _____ _____
Signature Date Time

_____ _____ _____
Supervisor Signature Date Time

PLANT INCIDENT REPORT - PART C Report No. 91-117

(IMMEDIATE) FOLLOW-ON INVESTIGATION (CIRCLE ONE)

I. PIR INVESTIGATION (Attach additional sheets as necessary)

Cause: Presumed contact resistance on timer card contacts.

Corrective Action: Cleaned timer card contacts.

CAT 1 ☐ Yes ☒ No RWQA ☐ Yes ☒ No Procedures Properly Followed ☒ Yes ☐ No

FPQA ☐ Yes ☒ No ATWSQA ☐ Yes ☒ No PSSH Exists see note ☐ Yes ☒ No

Review of Similar Incidents: NA

Root Cause (Attach Part D):

NPRDS Component ☐ Yes ☒ No NPRDS Query Completed ☐ Yes ☒ Not Desired - NPRDS Tech or Dept. Head

Action to Prevent Recurrence:

CR No.	NCR No.	PDCR No.
Procedure Change No.	AWO No.	Commitment No.
Other:	Investigator:	Date:

II. REVIEWS

Management Review: Date: Attendees:

(PORC Review): Meeting No. Date:

Comments/Action Items:

Follow-On Investigation Needed: ☐ Yes ☐ No Root Cause Analysis Planned ☐ Yes ☐ No

Presenter: Date: Approved: Unit Director Date:

III. REPORT COORDINATOR

LER No.	Date Required	Date Sent

APR 8 1991

PLANT INCIDENT REPORT - PART D Report No. _____

I. Personnel Error
- a. Verbal communication
- b. Written communication
- c. Interface design/equipment condition
- d. Environmental conditions
- e. Work schedule
- f. Work practices
  - 1. Procedure not used.
  - 2. Procedure not followed.
  - 3. Verification not done.
  - 4. No self-checking
- g. Work organization/planning
- h. Supervisory methods
- i. Training/qualification methods
- j. Training/qualification content
- k. Change management
- l. Resource management
- m. Managerial methods

II. Equipment Failure
- a. Inadequate design
- b. Incorrect procedure
- c. Manufacturing defect
- d. Installation error
- e. Operating error
- f. Improper maintenance
- g. Improper testing
- h. Wear out
- j. Misoperation of another component or system
- (k) Other increased contact resistance. normal wear.

III. Program Failure
- a. Procedure deficiencies:
  - 1. Lack of detail
  - 2. Technical error
  - 3. Administrative error
  - 4. Incomplete
  - 5. Data from wrong source
- b. Insufficient planning
- c. Management deficiency
  - 1. Standards/expectations not set
  - 2. Standards/expectations not monitored
  - 3. Inappropriate decision

IV. Activity
- (a) Surveillance
- b. Maintenance
- c. Equipment restoration (including retest)
- d. Plant startup/shutdown
- e. Safety tagging
- f. Fire protection
- g. Steady state plant ops
- h. Hot shutdown outage
- i. Cold shutdown outage

_____
Investigator Signature/Date

PLANT INCIDENT REPORT - PART B

PERSONNEL QUESTIONNAIRE

NAME Steve Schlachter (PRINT) POSITION Unit 2 PEO

PLANT EVENT TITLE ECF D/G FAILURE TO LOAD

EVENT DATE/TIME 10/31/91 1330

PIR NUMBER (IF KNOWN) 91-117

1. Describe the event:
When performing Surv 4606, I placed the test transfer switch in "TEST" and the ABT failed to transfer after 5 minutes. Repeated the surv. a 2ND time and the transfer failed. Unit 2 SS informed Elect. Maintenance for troubleshooting.

2. When did you know there was a problem, and how did you find out?
When I didn't hear the ABT shift and the VED Emergency light was not lit and the AC Amps was = 0, I secured the diesel.

3. What were your actions?
Secured the diesel, Informed the Unit 2 SS

4. What could be done or changed to prevent this problem from happening again?
D Regularly scheduled PM's by Electrical maintenance. (ie, Clean electrical components, Inspect etc)

5. Any other information you consider important:
Submitted Non-Intent change to enhance the procedure. (EPIP 4606)

Signature	11/1/91 Date	1345 Time
Supervisor Signature	11/1/91 Date	1345 Time

PLANT INCIDENT REPORT - PART B

PERSONNEL QUESTIONNAIRE

NAME Jack Heisler (PRINT) POSITION Electrician

PLANT EVENT TITLE EOF D/G FAILURE TO LOAD

EVENT DATE/TIME 10/31/91 1330

PIR NUMBER (IF KNOWN) 91-117

1. Describe the event: EOF D/G FAILURE TO LOAD

2. When did you know there was a problem, and how did you find out?

1415 overheard conversation between boss & on call electrician

3. What were your actions?

went to EOF - observed problem - cleaned contacts on timer ~~module~~ card ops retested

4. What could be done or changed to prevent this problem from happening again?

N/A

5. Any other information you consider important:

① ops needs a procedure for manual operation of ATT ② spare parts & electricians tools should be stored at EOF (Designated locker required)

Signature — Date 11/1/91 — Time

Supervisor Signature — Date 11/1/91 — Time 1145

Ref: ACP-QA-10.01

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[redacted] MAINTENANCE [redacted]

(75)

GE 1 OF 2

IMS ID: M2 02 EOF EAG EMG EOFD/G

WORK ORDER: M2 91 12093

PRIORITY.....:	3
AWO TYPE.....:	CM
UNIT STATUS..:	U MODE: ZZ
FREQUENCY....:	
SCHED START..:	11 / 06 / 91
REQ COMPL....:	11 / 21 / 91
PROJ REF.....:	CY11-FS-7

CAL ID: EOFD/G
CAL SYS: EOF
RDS:
LDG: YD ROOM: EOF BUILDING
LEV: 0014 FT 06 IN GRID: 2651
NO:
O. NO:
COUNT:

UIP DESC: EMERGENCY OPERATIONS FACILITY DIESEL GENERATOR ASSEMBLY

ROBLEM DESC: D/G WON'T SHIFT LOAD.

SP. CAUSE:
RIGINATOR: R GAUZZA DEPT: OPS DATE: 11 / 08 / 91 TR TAG HUNG: N

AT-1...:	N	TAGGING:	N	SECURITY..:	N	QC REQ....:	N	CONVEX....:	N
EQ.....:	N	RWP REQ:	N	FIRE WATCH:	N	HOUSEKEEP.:	N	PARTS LIST:	N
QA....:	N	ALARA..:	N	LLRT.....:	N	CLEANNESS.:	N	TOOL LIST.:	N
QA....:	N	SHIELD.:	___	ISI.....:	N	ASME CLASS:	___	STAGING...:	___
CQA...:	U	REWORK.:	N	MOV TEST..:	___	ENC VOLUME:	N		

CEDURES: ST01J-00 EVAL:CD-226

AUTION
NOTES:

08 1) REPAIR LOADING PROBLEM.
ESC:

	TASK	DEPT	# WKR	MAN HR		TASK	DEPT	# WKR	MAN HR
.	REPAIR	ELEC	_____	_____	4.			_____	_____
.			_____	_____	5.			_____	_____
.			_____	_____	6.			_____	_____

UPERVISOR: B ROWE Robert J. Rowe ASSIGN TO: _____

EPT APPROVAL: _____ DATE: 11 / 8 / 91

[redacted]

PS PRE-APPROVAL: NA TIME: _____ DATE: NA / _____
TRBLSHT/FABRICATE ONLY

AG CLEARANCE: NA LCO: NA DURATION: NA JUMPER: NA

PS APPROVAL: [signature] TIME: 1510 DATE: 11, 8, 91

5/90

****

TAGGING VERIFIED BY: _____

ACTUAL WORK / PARTS: _____

_____

_____

_____

_____

_____

_____

CAUSE/COMMENTS: _____

_____ FAIL CODE: _____

PERFORMED _ _____ _ _____ _ __ _____ _ _____

BY: _ _____ _ _____ _ _____ _ _____

M & TE: _____ _____ _____ _____ _____ _____

SER NO: _____ _____ _____ _____ _____ _____

CAL DUE: __ /__ /__ __ /__ /__ __ /__ /__ __ /__ /__ __ /__ /__ __ /__ /_

WORK COMPLETE: _____ COMP DATE: __/__/__ TR TAG REMOVED: N/A

****

RETEST/FUNCTIONAL VERIFICATION METHOD/PROCEDURE

RETEST RESULTS

RETEST #1 IAW 2701X-3.

SAT - UNSAT

DATA

_____

_____

_____

_____

_____

_____

ACCEPT CRITERIA: IAW 2701X-3.

PERFORMED BY: _____ DEPT: ____ DATE: __ / __ / __

****

TAGS CLEARED BY: _____ DATE: __ / __ / __ TIME: _____

ACCEPTED BY OPS: _____ DATE: __ / __ / __

PMMS REVIEW: _____ DATE: __ / __ / __

DEPT REVIEW: _____ DATE: __ / __ / __

==> MAINTENANCE <==

(76) BE

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FMMS ID: M2 02 EOF EAG EMG EOFD/G

WORK ORDER: M2 91 12093

LOCAL ID: EOFD/G
LOCAL SYS: EOF
NPRDS:
BLDG: YD ROOM: EOF BUILDING
ELEV: 0014 FT 06 IN GRID: 2651
TR NO:
P.O. NO:
ACCOUNT:

| PRIORITY.....: 3
| AWO TYPE.....: CM
| UNIT STATUS..: U MODE: ZZ
| FREQUENCY....:
| SCHED START..: 11 / 06 / 91 ✓
| REQ COMPL....: 12 / 31 / 91
|
| PROJ REF.....: CY11-FS-7

EQUIP DESC: EMERGENCY OPERATIONS FACILITY DIESEL GENERATOR ASSEMBLY

PROBLEM DESC: D/G WON'T SHIFT LOAD.

SUSP. CAUSE:
ORIGINATOR: R GAUZZA DEPT: OPS DATE: 11 / 08 / 91 TR TAG HUNG: N

CAT-1...: N	TAGGING: N	SECURITY..: N	QC REQ....: N	CONVEX....: N	
EEQ.....: N	RWP REQ: N	FIRE WATCH: N	HOUSEKEEP.: N	PARTS LIST: N	
FPQA....: N	ALARA..: N	LLRT.....: N	CLEANNESS.: N	TOOL LIST.: N	
RWQA....: N	SHIELD.: ___	ISI.....: N	ASME CLASS: ___	STAGING...: ___	
ATWSQA..: U	REWORK.: N	MOV TEST..: ___	ENC VOLUME: N		

PROCEDURES: 2701J-43 EVAL:CD-228

CAUTION
NOTES:

JOB DESC: 1) REPAIR LOADING PROBLEM.

	TASK	DEPT	# WKR	MAN HR.		TASK	DEPT	# WKR	MAN HR
1.	REPAIR	ELEC	1	3.0	4.				
2.	GLT Tech				5.				
3.					6.				

SUPERVISOR: B ROWE ASSIGN TO: _____

DEPT APPROVAL: Robert S. Rowe DATE: 11 / 8 / 91

OPS PRE-APPROVAL: NA TIME: _____ DATE: NA / __
TRBLSHT/FABRICATE ONLY

TAG CLEARANCE: NA LCO: NA DURATION: NA JUMPER: NA

OPS APPROVAL: [signature] TIME: 1510 DATE: 11, 8, 91 (91)

WORK ORDER: MC 91 12093

PAGE 2 OF 2

TAGGING VERIFIED BY: N/A

ACTUAL WORK / PARTS: Replaced transfer and retransfer BOARD PN 300-1188 ONAN. Run Diesel for 1 Hour -

CAUSE/COMMENTS:

FAIL CODE:

PERFORMED GLT INDUSTRIES LAGAS

BY: CASTLE

M & TE:

SER NO:

CAL DUE: __/__/__ __/__/__ __/__/__ __/__/__ __/__/__ __/__/__

WORK COMPLETE: [signature] COMP DATE: 12/05/91 TR TAG REMOVED: N/A

RETEST/FUNCTIONAL VERIFICATION METHOD/PROCEDURE

RETEST #1 IAW 2701X-3. 4606-1

RETEST RESULTS

(SAT) / - UNSAT

DATA

4606-1 Attached

ACCEPT CRITERIA: IAW 2701X-3.

PERFORMED BY: [signature] DEPT: OPS2 DATE: 12/5/91

TAGS CLEARED BY: _____ DATE: __/__/__ TIME: _____

ACCEPTED BY OPS: [signature] DATE: 12/5/91

PMMS REVIEW: [signature] DATE: 12/6/91

DEPT REVIEW: Robert L. Lowe DATE: 12/6/91

EMERGENCY OPERATION FACILITY EMERGENCY DIESEL GENERATOR OPERABILITY TEST

SURVEILLANCE COVER SHEET

CRN: APPLIC.-3D		DATE 4/15/91	PAGE 1 OF 1
REFERENCE SPEC. NA	REFERENCE PROCEDURE EPIP 4606	SORC MTG. NO. 91-24	
SCHEDULE DATE	APPLICABLE MODE All	FREQUENCY W	

TEST AUTHORIZED BY (SS/SCO)	DATE 12-5-91	ACCEPTANCE CRITERIA MET:
COMPLETED BY	DATE 12-5-91	☒ YES
ACCEPTED BY (SS)	DATE 12/5/91	☐ NO
APPROVED BY (DEPARTMENT HEAD)	DATE	

☐ TECH SPEC SURVEILLANCE ☐ MAINTENANCE RESTORATION ☐ SYSTEM ALIGNMENT ☒ NON-TECH SPEC SURVEILLANCE ☐ ISI TESTING

TEST EQUIPMENT	QA NUMBER	CAL DUE DATE
N/A	N/A	N/A

ACCEPTANCE CRITERIA

1. With the Transfer Control Test Panel Selector Switch in the "WITH LOAD" position, and the Test Transfer Switch placed in the "TEST" position, the Emergency Operations Facility Emergency Diesel Generator should perform as follows:
   - 1.1 Start automatically
   - 1.2 Pick up the load
   - 1.3 Run for one hour

IN ACCORDANCE WITH REFERENCE PROCEDURE		INITIALS
1.	PREREQUISITES/INITIAL CONDITIONS COMPLETED	
2.	PRECAUTIONS NOTED	
3.	COMMENTS (IF MAINTENANCE RESTORATION, INDICATE BELOW WORK ORDER #, ETC.)	

Note: Forward completed data sheet to Station Emergency Coordinator.
Forward completed copy of data sheet to Operations Technician

4.	DATA	
1.	One hour operability run complete	(Initials)
2.	Diesel Fuel Storage Tank Level	9/16

FORM APPROVED BY UNIT 2 DIRECTOR

1/1/94
EFFECTIVE DATE

PORC MTG. NO

MISCELLANEOUS EQUIPMENT RETEST MATRIX

	#1 Perform routine Operational Checks and ensure any operability requirements are met.	#2 Perform General Leak Test. Monitor component for no leakage at mechanical joints.	#3 Monitor component Vibration. (if component is included in Unit's Vibration Program)	#4 Record component Amperage and ensure value is = to or less than 1.1x name-plate value.
ACCUMULATORS		X		
AIR-CIRCUIT BREAKER	X			
AIR-CONDITIONING	X	X		X
AUXILIARY BOILER	X	X		
BACK FLOW PREVENTER		X		
BATTERIES	X			
BREAKERS	X			
CHARGER	X			
CHILLERS	X	X		X

	#1 Perform routine Operational Checks and ensure any operability requirements are met.	#2 Perform General Leak Test. Monitor component for no leakage at mechanical joints.	#3 Monitor component Vibration. (if component is included in Unit's Vibration Program)	#4 Record component Amperage and ensure value is = to or less than 1.1x name-plate value.
COMPRESSORS	X	X	X	X
CRANE OR HOIST	X			
DAMPER	X			
DEMINERALIZER		X		
DIESEL GENERATOR	X			
EXPANSION JOINT		X		
FAN	X		X	X
FILTER	X	X		
FIRE PROTECTION	X			

(11)

PIR INVESTIGATION
NOT REPORTABLE

TO: Brendan J. Duffy

FROM: Unit 2 PIR Report Coordinator (Tel. x4423)

You have been assigned as investigator for PIR 91-123, dated 11/8/91.

This PIR has been initially assessed to be not reportable under 10CFR50.73. To support the PIR adminstrative routing process, a timely response is imperative. The PIR investigation is to be completed by 02/16/92.

INSTRUCTIONS FOR PIR INVESTIGATORS

1. Per ACP-QA-10.01, 6.2.4, the assigned Investigator shall

   a. Complete Section 3 of the PIR.

   b. Verify (if applicable) the use of emergency operating procedures and document their review and use.

2. Ensure that if a PIR is generated due to a failure of any RPS/ESF channel on a quarterly test program, that an evaluation for a common cause mode will be performed under the ICR program IC 2437A.

3. Section III of the PIR must be filled out in its entirety. All PIRs that require PORC approval must be reviewed by the appropriate department head prior to PORC presentation.

4. Particular attention should be payed to identifying correctly the root cause of the event. The root cause may be defined as "the cause which, had it been prevented, would have prevented the event."

   NOTE: If, during the course of your investigaiton, you determine that this event may be reportable, notify the Unit 2 Operations Manager or Duty Officer.

5. Forward the completed PIR investigation to the report coordinator.

cc: LER Coordinator, S. E. Scace, R. J. Factora, S. M. Temple

5/92

Stephen J Scace | 11/4/91 | 91-31

FORM APPROVED BY DIRECTOR, MILLSTONE STATION | EFFECTIVE DATE | SORC MTG. NO.

PLANT INCIDENT REPORT - PART A INITIATION

Report No.: 2 - 91 - 123 (Unit - Year - Number)

I. PIR INITIATION (To be completed by Responsible Supervisor) INCIDENT DATE: 11-8-91 INCIDENT TIME: REPORT DATE: 11-8-91

Event Title: EOF Diesel Generator Failed to Load

Description of Event: EOF Diesel Generator Failed to Load Automatically During Surveillance - EPIP 4606

Description of Suspected Cause: (If Known)

Personnel Questionnaires Attached: (Part B) ☐ Yes ☐ No

System Affected:	System Number:	PMMS ID Number:	Signature:	Date:

II. PLANT INFORMATION (To be completed by SS)

Plant Conditions: Mode: 3 Power(%): 0 Temp.: 533 Pressure: 225-9

Description of Initial Action: Notified Maintenance

Safety Implications: EOF Back-up Power Not Available

Security Implications: None

Incident Category:
☐ A. Immediate ☐ B. 30-Day LER ☐ C. Public Interest
☒ D. Not reportable to NRC ☐ E. Fitness for Duty

Basis (Not Required for D): EPIP 4701-4 PS 12 Sect XI

Operations Manager Notified (Normal Hours) of A,B,C Incidents: ☒ Yes ☐ No Name: J Smith Date: 11-8-91 Time: 1600

Duty Officer Notified: ☒ Yes ☐ No Name: J Gerlach Date: 11-8-91 Time: 1640

SSSA Notified and EPIP 4112 Notifications Made: ☐ Yes ☒ No Name: N/A Date: N/A Time: N/A

Security Shift Supervisor (Potential Security Threat): ☐ Yes ☒ No Name: N/A Date: N/A Time: N/A

Procedures Used: EPIP 4606 | Shift Supervisor Signature: [signature] | Date: 11-8-91

III. DUTY OFFICER REVIEW

Reportability Verified ☒ Yes ☐ No

Immediate Investigation Required ☐ Yes ☒ No | Investigator Assigned: [signature] (Provide Copy of Part A SF 1001)

(Required for Emergency Plan Activation, Unplanned RPS/ESF Actuation, Reportable Oil/Chemical Spill, Serious Injury/Fatality)

Duty Officer Signature: [signature] Date: 11/9/91

IV. UNIT DIRECTOR REVIEW

Reportability Verified: ☒ Yes ☐ No | SORC Review: ☐ Yes ☒ No (Required for RPS/ESF Actuation)

PORC Review: ☐ Yes ☒ No (Required for Tech Spec violations, reportable events, PSSH)

PSSH: ☐ Yes ☒ No | NRB Review: ☐ Yes ☒ No | NEO 2.25 Initiated: ☐ Yes ☒ No

Investigator Assigned: B Duffy | Unit Director Signature: John S Keenan Date: 12/3/91

V. INVESTIGATION INFORMATION (To be completed by Investigator)

Trouble Reports Submitted: ☐ Yes ☐ No | Procedure Changes:

Photographs: ☐ Yes ☒ No | Material Being Held: ☐ Yes ☒ No Location:

AWO Copy Attached: ☐ Yes ☒ No | Safety Tag Sheet Copy Attached: ☐ Yes ☒ No

Investigator Signature: Date:

PLANT INCIDENT REPORT - PART C Report No. _____
PHASE I INVESTIGATION

Similar PIRs: (Within last 12 months) List or attach list.

Open PM/CMs: List or attach list.

Recent Work History: (Within last 6 months) List or attach list.

Pending Design Changes: List or attach list.

Other Pertinent Information:

Trends Identified: ❑ Yes ❑ No

Phase II Investigation Complete: ❑ Yes ❑ No

If NO expected completion date ___ /___ /___ (Not to exceed 3 months)

Management Review: (Required within a few working days)

Date: ___ /___ /___

Investigator Signature: _____ Date: ___ /___ /___

PLANT INCIDENT REPORT - PART E Report No. _____
ROOT CAUSE

Select at least one major and one minor root cause category. (Circle applicable items)

I. Personnel Error
- a. Verbal communication
- b. Written communication
- c. Interface design/equipment condition
- d. Environmental conditions
- e. Work schedule
- f. Work practices
  1. Procedure not used.
  2. Procedure not followed.
  3. Verification not done.
  4. No self-checking
- g. Work organization/planning
- h. Supervisory methods
- i. Training/qualification methods
- j. Training/qualification content
- k. Change management
- l. Resource management
- m. Managerial methods

II. Equipment Failure
- a. Inadequate design
- b. Incorrect procedure
- c. Manufacturing defect
- d. Installation error
- e. Operating error
- f. Improper maintenance
- g. Improper testing
- h. Wear out
- j. Misoperation of another component or system
- k. Other _____

III. Program Failure
- a. Procedure deficiencies:
  1. Lack of detail
  2. Technical error
  3. Administrative error
  4. Incomplete
  5. Data from wrong source
- b. Insufficient planning
- c. Management deficiency
  1. Standards/expectations not set
  2. Standards/expectations not monitored
  3. Inappropriate decision

Issue 91-219-01

Changes to vendor maintenance and surveillance instructions are not evaluated and needed procedure changes are not being made in a timely manner. In particular, MP 2720R1, NAMCO Limit Switch Maintenance (EQ), references NAMCO EA 189-90051 (December 1980) whereas the vendor has superseded EA 189-90051 with EA 189-90060 (February 4, 1991). This new information warns that removal of the bottom cover of the limit switch will negate the qualification (EEQ). In addition, NU was notified in May, 1989 that the vendor would no longer support re-work and spare part kits for their solenoid valves and limit switches. The concern is that key craft personnel are not aware of these changes.

Issue 91-219-02

MP 2722B, Annual EOF Diesel Generator Load Run, is deficient in that the division of work responsibilities among electricians, mechanics, and contractors have never been evaluated as appropriate. Further, AWO M2-89-09594, for the annual load test, does not reference MP 2722B or the other controlling procedure, EPIP 4303, and, there appears to be the following discrepancies in the drawings associated with the test:

1) Electrical circuit breaker positions on electrical panels KLP1 and KLP2 do not agree with drawing 25205-30007. Circuit breaker No. 26 is in question on ELP1; breakers 10 and 12 are in question on ELP2;

2) An electrical remote control panel, PN1 is shown on drawing 25205-30007; but does not appear to exist;

3) The schematic portion of drawing 25205-39002, sheet 3 (or 25205-32008) appears incorrect and is confusing;

4) A utility plug is located at the bottom of the electrical power distribution system automatic bus transfer device (ABT). This conflicts with drawing 25205-32008;

5) The vendor representative and mechanic involved with the annual load test of the EOF emergency diesel generator are not qualified to perform the electrical portions of the test; and,

6) The review of procedures made by PORC is inadequate.

Request:

Please discuss the validity of the above assertions. If any deficiencies are identified, please provide us with the corrective actions you have taken to prevent recurrence. Please provide us with an assessment of the significance with regard to safety of any identified deficiencies.

0210

Corner 9

91-210

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

NOV 0 6 1991

Docket Number: 50-336

Northeast Nuclear Energy Company
ATTN: Mr. John F. Opeka
Executive Vice President - Nuclear
Engineering and Operations Group
P.O. Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

Thank you for informing us of the results of your reviews of the concerns listed in the enclosed table. We have performed verification inspections on selected issues, find your responses generally acceptable, and plan no further actions on these issues at this time. This is not to say that further independent reviews of these issues will not take place in the future. You will be kept informed of such verification inspections and independent reviews by the normal inspection report process.

A copy of this letter as well as the referenced correspondence is being placed in the Public Document Rooms and sent to the State of Connecticut. We appreciate your cooperation in these matters.

Sincerely,

Edward Wenzinger

Edward Wenzinger, Chief
Reactor Projects Branch 4

Enclosure: Table of NU's Responses

cc w/encl:
Public Document Room (PDR)
Local Public Document Room (LPDR)
State of Connecticut

9202040081 1

5/77

NORTHEAST UTILITIES

General Offices • Selden Street, Berlin, Connecticut

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

September 30, 1991

Docket No. 50-336
A09829

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

Dear Mr. Hehl:

Millstone Nuclear Power Station, Unit No. 2
RI-91-A-0210

We have completed our review of an identified issue 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 transmittal letter and our response have received controlled and limited distribution on a "need-to-know" basis during the preparation of this response.

ISSUE 210-1:

"Millstone 2 turbine sampling system valves with a prefix of '2-S' are not labeled in the field. In addition, the so· um analyzer 'AE 7764 A5', is incorrectly labeled as 'AE 7764 A6' on sheet 3 of drawing 25203-26025."

REQUEST:

"Please discuss the validity of the above assertion. If the above conditions are valid, please notify us why this was not previously corrected by your labeling program and what corrective actions you have taken to prevent recurrence. Please provide us with an assessment of the safety significance of any identified deficiencies, including any generic considerations."

RESPONSE 210-1:

The assertion concerning the sampling system valve labels is valid if the stated analyzer is AE7784 rather than AE 7764. We were made aware of the drawing problem in early September, 1991. The Millstone Unit No. 2 Engineering Department has identified that the Piping and Instrument Diagram (P&ID) does not agree with the as-built condition and is in the process of updating the drawings to reflect the as-built conditions.

In March 1991, a new Administrative Control Procedure, ACP-6.22--System and Component Labeling--was written and issued to provide guidance on a standardized labeling program for the Millstone site. Also in March, a Controlled Routing (CR 8139) was issued to track the progress of each of the units in complying with the requirements of the ACP. The labeling effort includes valves, major components, and instrument and gauge labeling. The sampling system valves identified in the assertion are part of this program. The valve labeling efforts are expected to be completed by the end of 1992. Currently the Operations Department is holding discussions with other departments in the unit in an effort to establish who will normally operate and be responsible for labeling valves such as those associated with radiation monitors, sample systems, etc.

As part of the program implemented under ACP 6.22 a label request form has been generated which allows anyone finding a missing, incorrect, or deteriorating label to bring it to the attention of the label coordinator or Operations Manager for prompt action.

As part of the labeling program under ACP-6.22, the initial labeling of a system is to be verified by a complete walkdown of the system using system checklists and P&IDs to determine that all system components are labeled and that the label nomenclature matches the P&ID identification and system checklist description for each component. Thus, if other similar problems exist, they should be routinely identified and corrected as part of this program.

ISSUE 210-2:

"Circuit changes had been made to the Millstone 2 main generator hydrogen monitor without the preparation of a modification package. As a result, the calibration procedure is inadequate, and appropriate procedure and drawing changes have not made."

REQUEST:

"Please discuss the validity of the above assertion. If the above conditions are valid, please notify us of the corrective actions you have taken to prevent recurrence. Please provide us with an assessment of the safety significance of any identified deficiencies, including any generic considerations."

RESPONSE:

We are still investigating this matter and will respond when the investigation is complete. We currently plan to respond by October 14, 1991.

After our review and evaluation of this issue, we find that it did not present any indication of a compromise of nuclear safety. We appreciate the opportunity to respond and explain the basis of our actions. Please contact my staff if there are further questions on any of these matters.

Very truly yours,
NORTHEAST NUCLEAR ENERGY COMPANY

Edward 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
J. T. Shedlosky, U.S. Nuclear Regulatory Commission, Millstone

(71)

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

Docket Number: 50-336 OCT 0 9 1991
File Number: RI-91-A-219

Northeast Nuclear Energy Company
ATTN: Mr. John F. Opeka
Executive Vice President - Nuclear
Engineering and Operations Group
P.O. Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

The U.S. Nuclear Regulatory Commission recently received information concerning activities at the Millstone Nuclear Power Facility, Unit 2. The details are enclosed for your review and follow-up.

We request that the results of your review and disposition of these matters be submitted to Region I within 30 days of the date of receipt of this letter. We request that your response contain no personal privacy, proprietary, or safeguards information so it can be released to the public and placed in the NRC Public Document Room. If necessary, such information shall be contained in a separate attachment which will be withheld from public disclosure. The affidavit required by 10 CFR 2.790(b) must accompany your response if proprietary information is included. Please refer to file number *filename* when providing your response.

The enclosure to this letter should be controlled and distribution limited to personnel with a "need to know" until your investigation of the concern has been completed and reviewed by NRC Region I. The enclosure to this letter is considered Exempt from Public Disclosure in accordance with Title 10, Code of Federal Regulations, Part 2.790(a). However, a copy of this letter excluding the enclosure will be placed in the NRC Public Document room.

The response requested by this letter and the accompanying enclosure are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Your cooperation in this matter will be appreciated. We will gladly discuss any questions you have concerning this information.

Sincerely,

Charles W. Hehl, Director
Division of Reactor Projects

Enclosure: 10 CFR 2.790(a) Information
Issues and Requests

9110240065 PP

5/86

cc w/o encl:
Public Document Room (PDR)
Local Public Document Room (LPDR)
State of Connecticut

Letter to Northeast Nuclear Energy Company

bcc:
Allegation File: RI-91-A-219 & RI-91-A-037-01
E. Kelly
W. Raymond
T. Shedlosky
E. Conner

0219

13

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

General Offices • Selden Street, Berlin, Connecticut

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

November 15, 1991

Docket No. 50-245
B13963

Re: RG 1.97
Inspection 50-245/91-20

91-219-3

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Gentlemen:

Millstone Nuclear Power Station, Unit No. 1
Regulatory Guide 1.97, Revision 2 (TAC No. 51106)

An inspection of Millstone Unit No. 1 compliance with the provisions of Regulatory Guide (RG) 1.97, Revision 2, was conducted by the NRC Staff from September 30, 1990, to October 4, 1991. In Northeast Nuclear Energy Company's (NNECO) September 11, 1991,(1) response to the Staff's Safety Evaluation,(2) NNECO committed to provide the Staff with pertinent changes regarding additional Type A variables by the end of the year. During Inspection 91-20 NNECO made a more specific commitment to provide the status of its review by November 15, 1991. The purpose of this letter is to satisfy that commitment. The following RG 1.97 variables are now considered to be additional Type A variables for Millstone Unit No. 1.

- Torus bottom pressure
- Drywell temperature
- Low-pressure coolant injection (LPCI) flow
- Core spray flow
- Emergency service water (ESW) to LPCI differential pressure

---

(1) E. J. Mroczka letter to U.S. Nuclear Regulatory Commission, "Conformance to Regulatory Guide 1.97, Revision 2 (TAC No. 51106)," dated September 11, 1991.

(2) M. L. Boyle letter to E. J. Mroczka, "Millstone Unit 1--Request for Additional Information Regarding Conformance to Regulatory Guide 1.97, Revision 2 (TAC No. 51106)," dated April 24, 1991.

9111220280 2PP

5/93

The first two of these five variables, torus bottom pressure and drywell temperature, completely satisfy the provisions of RG 1.97 for Type A variables.

The other three variables, LPCI flow, core spray flow, and ESW to LPCI differential pressure, have areas where deviations from the provisions of RG 1.97 will be taken by NNECO. Details of these deviations are provided below.

- LPCI flow: RG 1.97 specifies redundant flow measurement loops. Millstone Unit No. 1 has one flow measurement loop in the selected path (by the loop selection logic) for LPCI injection into the reactor pressure vessel. Also, the measurement loops are powered by the instrument AC Circuit Breaker No. 45, while the RG calls for redundant power supplies.

- Core spray flow and ESW to LPCI differential pressure are not recorded as recommended by the RG. Also, these variables do not have redundant power supplies as recommended by the RG.

An evaluation, which was performed as part of preparations for start-up from the 1991 refueling outage, concluded that the instrument redundancy and power source deviations described above do not detract from the safe operation of Millstone Unit No. 1. Lack of recording of core spray flow and ESW to LPCI differential pressure as recommended by RG 1.97 also does not detract from the safe operation of Millstone Unit No. 1.

NNECO plans to finalize a course of action to address the deviations for the variables discussed here by the end of March 1992.

Please contact us if you have any questions.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

J. F. Opeka
Executive Vice President

cc: T. T. Martin, Region I Administrator
D. H. Jaffe, NRC Project Manager, Millstone Unit No. 1
W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3

R. Paolino

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

NOV 26 1991

Docket No. 50-245

Mr. John F. Opeka
Executive Vice President - Nuclear
Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

Subject: Inspection Report No. 50-245/91-20

The report is enclosed of the inspection conducted by Mr. R. Paolino of this office on September 30 through October 4, 1991, of safe shutdown equipment, Regulatory Guide 1.97, at Millstone, Unit 1 in Waterford, Connecticut. These activities are authorized by NRC Operating License No. DPR-21. Discussions of the inspection findings were held by Mr. Paolino with Mr. L. Davison and other members of your staff at the conclusion of the inspection.

Specific areas examined during the inspection included your compliance with the orders issued to implement Regulatory Guide 1.97. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Based on this inspection, it was determined that the post-accident monitoring program implemented by your staff is consistent with the recommendations of Regulatory Guide 1.97, Revision 2, with the following exception. One unresolved item, involving missing environmental qualified (EQ) components from the current EQ master list, Revision 4, was observed. We note that the draft, Revision 5, of the EQ master list, includes the missing EQ components.

In discussions with instrumentation and control engineering personnel, it was indicated that a comprehensive review was in process regarding the status of five probable additional type A variables. We understand that final resolution of this review is scheduled for November 15, 1991, at which time the NRC would be notified.

Within the scope of this inspection no violations were identified.

Was the allegation issue

No reply to this letter is required. Your cooperation with us in this matter is appreciated.

Sincerely,

Jacque P. Durr

Jacque P. Durr, Chief
Engineering Branch
Division of Reactor Safety

Enclosure: NRC Region I Inspection Report No. 50-245/91-20

cc w/encl:
W. D. Romberg, Vice President, Nuclear Operations
S. E. Scace, Nuclear Station Director
H. F. Haynes, Nuclear Unit Director
R. M. Kacich, Manager, Nuclear Licensing
D. O. Nordquist, Director of Quality Services
Gerald Garfield, Esquire
Nicholas Reynolds, Esquire
K. Abraham, PAO (2) All Inspection Reports
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
State of Connecticut

bcc w/encl:
Region I Docket Room (with concurrences)
Management Assistant, DRMA (w/o encl)
J. Joyner, DRSS
E. Kelly, DRP
E. Wenzinger, DRP
W. Raymond, SRI, Millstone
A. Asars, SRI, Haddam Neck
R. Lobel, EDO
D. Jaffe, PM, NRR
DRS SALP Coordinator
DRSS SALP Cordinator
R. Arrighi, DRP

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-245/91-20

Docket No. 50-245

License No. DPR-21

Licensee: Northeast Nuclear Energy Company
P.O. Box 270
Hartford, Connecticut 06140-0270

Facility Name: Millstone Nuclear Power Station, Unit 1

Inspection At: Berlin, Connecticut

Inspection Conducted: September 30, 1991 - October 4, 1991

Inspectors: _____ 11-6-91
R. J. Paolino, Sr. Reactor Engineer, date
Electrical Section, EB, DRS

Other Participant and Contributor to this Report

Alan Udy, Consultant, EG&G Idaho, Inc.

Approved by: _____ 11/12/91
C. J. Anderson, Chief, Electrical Section, date
Engineering Branch, DRS

Inspection Summary

Areas Inspected: Special announced inspection to review the licensee's implementation of the post-accident monitoring instrumentation in accordance with Regulatory Guide 1.97, Revision 2.

Results: Based on this inspection, the inspectors determined that the licensee has a program that meets the recommendations of Regulatory Guide 1.97, Revision 2, with the following exceptions. The licensee's current EQ Master List, Revision 4, did not list all of the EQ components located in a harsh environment. This was identified by the licensee who was in the process of issuing a revised EQ Master List, Revision 5, that included the missing components.

DETAILS

1.0 Introduction

Background

The purpose of this inspection was to verify the implementation of Regulatory Guide 1.97, Revision 2, for instrument systems used to assess plant conditions during and following an accident. These systems were inspected to determine if they were installed in accordance with the requirements of Generic Letter 82-33, "Requirements for Emergency Response Capability" (Supplement No. 1 to NUREG-0737). This letter, issued on December 17, 1982, specifies those requirements for emergency response capabilities approved by the NRC for implementation. This supplement also discusses, in part, the application of Regulatory Guide 1.97 to the emergency response facilities, including the control room, the technical support center (TSC), and the emergency response facility (EOF) at nuclear power plants. Regulatory Guide 1.97 identifies the plant variables to be measured and the instrumentation criteria for assuring acceptable emergency response capabilities during and following an accident.

Regulatory Guide 1.97 divides post-accident instrumentation into three categories and five types. The three design categories are Categories 1, 2, and 3. Category 1 has the most stringent design requirements and Category 3 the least stringent. The five types of instrumentation identified in Regulatory Guide 1.97 are Types A, B, C, D, and E. Type A variables are plant specific and classified as such by the licensee. Type B variables indicate the accomplishment of plant safety functions. Type C variables provide information on the breach of barriers to fission product release. Type D variables evidence the operation of individual safety systems. Type E variables are those used to determine the magnitude of the release of radioactive materials. Each variable is assigned to a design category by the regulatory guide. However, Type A variables can only be design Category 1.

Correspondence

The licensee responded to Regulatory Guide 1.97 for Unit 1 in submittals dated April 9, 1984, October 25, 1985, November 25, 1985, and July 31, 1986. These submittals address conformance to Regulatory Guide 1.97, Revision 2, along with supporting justification or alternatives.

References

The specific references used to assess the licensee's response to Regulatory Guide 1.97 are identified below:

- Regulatory Guide 1.97, Revision 2, "Instrumentation for Light-water-cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following Accident."
- Millstone-1 Safety Evaluation Report - Conformance to Regulatory Guide 1.97, April 24, 1991.
- Supplement No. 1 to NUREG-0737, "Requirements for Emergency Response Capability (Generic Letter No. 82-33), "December 17, 1982.

Inspection Scope

The NRC inspection scope included: equipment qualification (seismic and environmental), redundancy of power sources, measured variables, display and recording methods used, independence and separation of electrical circuits, range and overlapping features of multiple range instruments, equipment identification for Regulatory Guide 1.97 instruments, service, test, and surveillance frequency, and direct versus indirect measurements of parameters of interest. The plant maintenance and monitoring system (PMMS) printout and the EQ master list were reviewed for the instruments selected to ascertain whether the instruments had been evaluated and tested to the appropriate environmental and seismic qualification requirements. The inspectors also reviewed the QA procurement of these instruments.

2.0 Inspection Details

The inspectors held discussions with various members of the licensee's staff, reviewed drawings, procedures, and plant lists for selected variables. The inspectors performed a walkdown of the control room instruments to assess the implementation of Regulatory Guide 1.97, Revision 2, for Millstone 1.

The inspectors found all instrument loops in calibration. Calibration records show that calibration and surveillance is performed at the specified frequencies.

The licensee has green borders on the right and left sides of the instrument tags for the primary readout device. Thus, where a variable has both indicator and recorder on the same instrument loop, only the preferred readout is marked in this manner. The inspectors found this acceptable. The inspectors also noted that calibration stickers have a vertical green band on them. This preponderance of vertical green borders could be potentially confusing to the operator in finding the instruments associated with the regulatory guide. However, the inspectors found no basis for finding this condition unacceptable, as the calibration stickers are distinguishable from the instrument tag labels.

The inspectors reviewed design, operational, and surveillance details for the following variables.

- Reactor pressure vessel pressure, Type A, B, and C, Category 1
- Reactor pressure vessel water level, Type A and B, Category 1
- Torus water temperature, Type A and D, Category 1
- Torus water level, Type A, C, and D, Category 1
- Drywell pressure, Type A, B, and C, Category 1
- Neutron flux, Type B, Category 1
- Drywell area radiation level - high range, Type E, Category 1
- Containment isolation valve position, Type B, Category 1

Characteristics examined for each variable include identity, location, function, separation (electrical and physical), isolation, power sources, environmental qualification, seismic qualification, and instrument range.

The items examined for compliance with Regulatory Guide 1.97, Revision 2, are discussed in the remainder of this report.

2.1 Reactor Pressure Vessel Pressure

The licensee determined this variable is a Type A variable. Two redundant instrument channels, each powered by a separate DC power source, indicate this variable with a range of zero to 1500 psig. Two other channels provide the recording function on a single recorder. The signal is recorded for either of these two loops, dependent on the position of a selector switch. The selected signal is also recorded by the plant computer. The signal is isolated as recommended by the regulatory guide. These channels, with a range of zero to 2500 psig, have an instrument AC power source. Considering these channels as a single recording channel with two additional independent Category 1 channels, the Category 1 requirements have been met.

No deficiencies were identified.

2.2 Reactor Pressure Vessel Water Level

The licensee determined this variable is a Type A variable. Two redundant instrument channels, each powered by a separate instrument AC power source, indicate this variable with a range from -340 inches to a +60 inches. Both channels are recorded by the plant computer. The signals to the plant recorder are isolated from the instrument loops as recommended by the regulatory guide.

The inspectors verified conformance with the Category 1 requirements. No deficiencies were identified.

2.3 Torus Water Temperature

The licensee determined the torus water temperature is a Type A variable. The licensee monitors the torus water temperature with 26 resistance temperature detectors (RTDs) distributed throughout the torus. Four of these RTDs are divided into two channels of instrumentation. Each channel has a separate instrument AC power source and is indicated on a dual indicator. These four signals are also recorded by the plant computer which are isolated from the instrument channels. The other 22 RTDs are recorded on two multipoint recorders, each with a separate instrument AC power supply, eleven RTDs per recorder. The inspectors determined this variable to be in conformance with Category 1 requirements.

The inspectors noted that the indicators and their computer inputs have a range of zero to 300°F, while the licensee's submittals show a range of 30°F to 300°F. The multipoint recorders have scales of 30°F to 230°F. Regulatory Guide 1.97 recommends a range of 30°F to 230°F and, therefore, all indication of the torus water temperature meet or exceed the regulatory guide recommendation. Therefore, the inspectors concluded that this instrumentation is acceptable.

2.4 Torus Water Level

The licensee determined the torus water level is a Type A variable. The licensee has two instrument channels for this variable with a range of 2.2 feet to 27.2 feet. Each channel is displayed on a dual pen recorder shared with the variable drywell pressure and is also recorded by the plant computer. The computer inputs are isolated from the instrument channels. Each channel is powered by a separate instrument AC power source.

The inspectors determined the Category 1 requirements have been met. No deficiencies were identified.

2.5 Drywell Pressure

The licensee determined the drywell pressure is a Type A variable. The licensee has two instrument channels for this variable with a range of -5 psig to +250 psig. Each channel is displayed on a dual pen recorder shared with the variable torus water level. Each channel is powered by a separate instrument AC power source.

The inspectors determined the Category 1 requirements have been met. No deficiencies were identified.

2.6 Neutron Flux

The Regulatory Guide 1.97 classifies neutron flux monitoring as a Type B, Category 1 variable. The neutron flux instrumentation channels are powered by redundant electrical buses which are backed up by the gas turbine or the diesel generator. Two source range monitor (SRM) channels and four intermediate range monitor (IRM) channels receive power from a DC power source. Two other independent SRM channels and four additional independent IRM channels receive power from a second DC power source. The six average power range monitor (APRM) channels receive power from reactor protection system 120-Vac buses, three channels per bus. Environmental and seismic qualification were not in evidence, though some components are in a mild post-accident environment.

The licensee is part of the Boiling Water Reactor Owners Group (BWROG) and part of the appeal on neutron flux instrumentation Category 1 requirements. The resolution of the BWROG appeal is pending. In the meantime, interim operation with the SRM, IRM, and APRM channels is acceptable per the safety Evaluation Report.

2.7 Drywell Area Radiation - High Range

Regulatory Guide 1.97 classifies this as a Category 1 variable. Two channels, each powered by separate instrument AC power sources, monitor from 1 R/hr to 10^8 R/hr. Each channel has an indicator and one channel is also recorded by a dedicated strip chart recorder.

The inspectors determined the Category 1 requirements have been met. No deficiencies were identified.

2.8 Containment Isolation Valve Position

Regulatory Guide 1.97 classified containment isolation valve position as a Category 1 variable. The inspectors audited material related to the position indication of the containment isolation valves. High reliability is achieved in containment isolation valve's position indication by a combination of redundancy and diversity of power sources. Power for a typical pair of valves consists of 480V AC bus power to one motor-operated valve motor and indication and 125 volt DC bus power for the corresponding DC motor-operated valve motor and indication.

The inspectors determined the Category 1 requirements have been met. No deficiencies were identified.

2.9 Isolation Devices

Where a Category 1 signal inputs a non-category 1 system, Regulatory Guide 1.97 specifies the use of isolation devices that are qualified for use in Category 1 circuits. Circuits examined during this inspection have proper isolation. The separation criteria was implemented appropriately. Instrument loops that interface with computer circuits have appropriate isolation amplifiers. Circuits that feed annunciators use relay contacts for isolation. Relays are acceptable isolation devices.

No deficiencies were identified.

3.0 Physical Inspection

The inspectors examined the control room instrumentation discussed in Section 2.0 of this report. The inspectors verified that each indicator and recorder was as documented, had the range recommended by the regulatory guide, and was mounted and located to support electrical and physical separation of redundant instrument channels.

Specific identification of Regulatory Guide 1.97 instrumentation was accomplished with vertical green borders of the instrument tag on the control panel.

No deficiencies were identified.

4.0 Potential R.G 1.97 Type A Variable

In a letter to the NRC (A09507), dated September 11, 1991, NNECO indicates that a comprehensive review of its position regarding R.G. 1.97 has been initiated. As a result, several other variables, listed below, are being evaluated for potential classifications as Type A variables. Licensee internal memorandum NE-91-SAB-235, dated September 23, 1991, concludes that the following five variables be classified as Type A. These variables are: LPCI Flow, Torus Bottoms Pressure, ESW to LPCI Differential Pressure and Drywell Temperature. The memorandum also concludes, based on its evaluation, that changes could be made that could eliminate LPCI Flow, Core Spray Flow and ESW to LPCI Differential Pressure as Type A variables. However, in the case of LPCI and Core Spray Flow the licensee is not comfortable with establishing long term pump cavitation as a design basis. The licensee expects to complete their evaluation by November 15, 1991, at which time it will provide the NRC with its final position regarding additional Type A variables.

5.0 Environmental Qualification Master List

The environmental qualification (EQ) Master List, Revision 4, dated January 20, 1991, was reviewed to ascertain whether the instruments selected for review were evaluated and tested to the appropriate environmental and seismic qualification requirements.

The inspector noted that the EQ Master List did not identify all the containment isolation valve (limit) switches. In addition, the terminology used in listing the limit switches and solenoid valves was identical, making it difficult to track these components.

The licensee did provide a draft copy of a revised EQ Master List, Revision 5, which identifies the missing containment isolation valves. The draft copy includes other changes that are being considered to the EQ Master List to provide a complete, accurate and current listing of qualified EQ components located in harsh environments.

This item is unresolved pending the NRC's review of the licensee's evaluation and revised EQ Master List. 50-245(91-20-01)

6.0 Unresolved Item

Unresolved items are matters needing more information to determine whether an item is acceptable or a violation. An unresolved item is identified in paragraph 5.0.

7.0 Exit Meeting

The inspectors met with the licensee's representatives (listed in Appendix A) at the conclusion of the inspection on October 4, 1991. The lead inspector summarized the scope of the inspection, the inspection findings, and confirmed with the licensee that the documents reviewed by the inspectors did not contain any proprietary information.

ATTACHMENT 1
Persons Contacted

Northeast Utilities Service Company

* P. Blanch, Instrumentation and Controls Engineering Supervisor
* R. Bumstead, Instrumentation and Controls
* L. Davison, Millstone Point-1 PSD Manager
* R. Joshi, Principal Licensing Engineer
  R. Kacich, Nuclear Licensing Manager
  C. Kousik, Millstone Point-1 PSE I&C Engineer
  A. Maso, Electrical Engineer
* S. Oates, Senior Engineering Technician
* P. Santoro, Nuclear Safety Concern Program Director
  T. Thull, Plant Engineer
  B. Tuthill, Electrical, Instrumentation, and Control Programs Supervisor
* D. Vail, Electrical Engineering Supervisor

Northeast Nuclear Energy Company

  P. Blasioli, MIllstone Point-1 Engineering Manager
* J. Summa, Millstone Point-1 Engineering Supervisor

* Denotes those participating in the exit meeting on October 4, 1991.

The inspectors contacted other persons as a matter of course during the inspection.