



Northeast  
Nuclear Energy

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Northeast Nuclear Energy Company

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The Northeast Utilities System

Donald B. Miller Jr.,

Senior Vice President - Millstone

Re: 10CFR50.73(a)(2)(iv)

May 15, 1995

MP-95-150

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Reference: Facility Operating License No. NPF-49  
Docket No. 50-423  
Licensee Event Report 95-007-00

This letter forwards Licensee Event Report 95-007-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(iv).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Donald B. Miller, Jr.

Senior Vice President - Millstone Station

DBM/RLM:ljs

Attachment: LER 95-007-00

cc: T. T. Martin, Region I Administrator  
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3  
V. L. Rooney, NRC Project Manager, Millstone Unit No. 3

9505250002 950515  
PDR ADDCK 05000423  
S PDR

JE22

## LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Millstone Nuclear Power Station Unit 3

DOCKET NUMBER (2)

05000423

PAGE (3)

1 OF 3

TITLE (4)

Inadvertent Partial Containment Depressurization Actuation Signal While Shutdown, Due to Personnel Error

EVENT DATE (5)

LER NUMBER (6)

REPORT DATE (7)

OTHER FACILITIES INVOLVED (8)

MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	16	95	95	007	00	05	15	95		05000
										05000

OPERATING MODE (9)

5

THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

POWER LEVEL (10)

0

20.402(b)

20.405(c)

X 50.73(a)(2)(iv)

73.71(b)

20.405(a)(1)(i)

50.36(c)(1)

50.73(a)(2)(iv)

73.71(c)

20.405(a)(1)(ii)

50.36(c)(2)

50.73(a)(2)(vi)

OTHER

20.405(a)(1)(iii)

50.73(a)(2)(i)

50.73(a)(2)(vii)(A)

(Specify in Abstract below and in Text, NRC Form 366A)

20.405(a)(1)(iv)

50.73(a)(2)(ii)

50.73(a)(2)(vii)(B)

20.405(a)(1)(v)

50.73(a)(2)(iii)

50.73(a)(2)(x)

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Robert L. McGuinness, Senior Engineer

TELEPHONE NUMBER (Include Area Code)

(203) 447-1791 Ext. 6855

## COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

## SUPPLEMENTAL REPORT EXPECTED (14)

YES

(If yes, complete EXPECTED SUBMISSION DATE)

X

NO

EXPECTED SUBMISSION DATE (15)

MONTH

DAY

YEAR

## ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

At 1330 hours on April 16, 1995, while operating in Mode 5 at 0% power, 180--190 degrees Fahrenheit and 340--350 psia, a partial Containment Depressurization Actuation (CDA) signal was generated when limit switch contacts were grounded while performing modifications. This actuated an A Train CDA slave relay in the Solid State Protection System (SSPS). Engineered Safety Features (ESF) equipment started and selected components and a non-vital electrical buss were tripped by the CDA signal. The plant responded as designed to the CDA signal.

Following the receipt of numerous alarms and the auto-start of the A Train Emergency Diesel Generator (EDG), control room operators determined that a partial A Train CDA had occurred. The control room operators initiated appropriate actions, including resetting the A Train Emergency Generator Loading Sequencer (EGLS), and restoring the A Train of the Residual Heat Removal (RHR) by restarting the tripped A Train Reactor Plant Component Cooling Water (RPCCW) pump. The plant was restored to its Cold Shutdown configuration and the work on all Recirculation Spray System (RSS) MOVs was halted pending an investigation of the event.

This partial A Train CDA was not a safety significant event, particularly given the plant's Cold Shutdown equipment alignment. In addition, all of the B Train components were available and capable of handling heat loads.

This event was caused by personnel error and programmatic weaknesses. The principal cause was personnel error resulting from failing to disable the CDA train while working on the subject limit switches. The disabling of CDA was an identified caution in the Work Order for these limit switches. There were programmatic weaknesses in work planning and scheduling, regarding how the work would be done.

To prevent recurrence, a number of actions were taken including; reviews with affected department personnel, procedure improvements, and work control improvements.

EXPIRES: 5/31/95

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  Millstone Nuclear Power Station Unit 3	DOCKET NUMBER (2)  05000423	LER NUMBER (5)			PAGE (3)  02 OF 03
		YEAR  95	SEQUENTIAL NUMBER  — 007 —	REVISION NUMBER  00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

**I. Description of Event**

At 1330 hours on April 16, 1995 while operating in Mode 5 at 0% power, 180–190 degrees Fahrenheit and 340–350 psia, a partial A Train Containment Depressurization Actuation (CDA) signal was generated when containment isolation valve limit switch contacts were grounded. The event occurred while personnel were performing limit switch modifications on the Recirculation Spray System (RSS) isolation valves. The grounding of the switch contacts resulted in the actuation of an A Train CDA slave relay in the Solid State Protection System (SSPS). The Engineered Safety Features (ESF) equipment controlled by the relay started automatically, including the A Train Emergency Diesel Generator (EDG), Motor Driven Auxiliary Feedwater Pump (MDAFP), and Auxiliary Building Filter Fans. Other sequenced loads, such as the A Quench Spray pump and A Safety Injection Pump, did not start since their control switches were in Pull-To-Lock for the current plant operating mode. The partial CDA signal tripped the running Reactor Plant Component Cooling Water (RPCCW) Pump and a non-vital 480VAC turbine building electrical bus. The A Train Service Water, Residual Heat Removal (RHR), and Charging pump also received a start signal, but were already running and remained running. These equipment actions were proper for the partial CDA signal.

Decay heat removal from the A Train of RHR was lost when the A RPCCW pump tripped. In addition, operators closed the RHR heat exchanger flow control valve, bypassing all Reactor Coolant System (RCS) flow around the heat exchanger. After an unsuccessful attempt to manually restart the A RPCCW pump, an operator was dispatched to the Emergency Generator Loading Sequencer (EGLS) to check for inputs, and found the CDA "EXTERNAL INPUT RECEIVED" light lit. The EGLS was reset and the A RPCCW pump was restarted approximately three minutes after the initiating event. The RHR heat exchanger flow control valve was reopened approximately seven minutes after the initiating event. During this interval, with two Reactor Coolant Pumps running, the RCS heated up approximately 4 degrees Fahrenheit.

Recovery from the event continued with the A MDAFP being shutdown and the non-vital 480VAC turbine building electrical bus being re-energized. The A Train EDG was shutdown and the EGLS was restored to its normal lineup. Restoration was completed with the shutdown of the A Train auxiliary building filter fan and implementation of a normal ventilation lineup.

**II. Cause of Event**

A substantial root cause investigation was conducted. In summary, several causes were identified. First, there was personnel error by failure of the first line supervisor to fulfill his programmatically defined responsibilities for work under his cognizance. Specifically, the first line supervisor did not ensure that workers were informed of the Work Order caution which required the CDA signal to be inhibited prior to starting work. Secondly, there were programmatic weaknesses in that there was inadequate coordination of the multi-discipline work activity. In addition, the Work Order generated by the Production Maintenance Management System (PMMS) was not explicit as to who was to disable CDA and how it would be accomplished. Finally, work practices contributed to this event in that the method used by workers in the field to verify the circuit was deenergized was inadequate.

**III. Analysis of Event**

This event is reportable as an ESF actuation under 10CFR50.73(a)(2)(iv). An immediate notification was made in accordance with 10CFR50.72(b)(2)(ii). There was no safety significance since the inherently safe design of the ESF actuation system produced a conservative action: a partial CDA signal. This did not affect the fulfillment of any safety functions required while the plant was in Cold Shutdown, nor the ability of safety systems to respond to plant conditions.

At all times during the event, the B Train cooling systems, RBCCW, RHR, and SWS, were available and capable of handling the heat loads. In addition, the four steam generators and two reactor coolant pumps were operating, and removing heat.

EXPIRES: 5/31/95

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNRB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	95	— 007 —	00	03 OF 03

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

IV. Corrective Action

Immediate actions taken during the event were focused on restoring the RHR train which was lost when the RPCCW pump tripped, cutting off cooling to the RHR heat exchanger. Operators attempted to restart the RPCCW pump, but were locked out by the EGLS. The Operators then reset the EGLS, restarted the RPCCW pump and opened the RHR heat exchanger flow control valve. After RHR was reestablished, the restoration to the Cold Shutdown plant alignment was accomplished. All work on the RSS motor operated valves (MOVs) was immediately ordered stopped pending an investigation of the event.

A thorough investigation identified actions to prevent recurrence. Discussions were held with the Operations Department and maintenance personnel stressing the need to be fully aware of any and all notes and precautions associated with Work Orders. In addition, the PMMS caution has been changed to require verification that CDA has been disabled. The disabling of CDA has been proceduralized to remove any ambiguity as to the expectations regarding the disabling of CDA. The methods for verifying that circuits are deenergized was reviewed by engineering and communicated to the workers.

Longer term corrective actions include a review of Work Planning and Outage Management's role in identifying and coordinating multi-discipline work activities, particularly during outages. The investigations also concluded that a review will be performed to consider the possibility of disabling the SSPS outputs when the functions are not required.

V. Additional Information

There have been no other LERs involving ESF actuations from personnel errors within the past two years. However, an inadvertent Loss of Offsite Power signal that occurred on April 30, 1995, is being investigated for reportability, and an LER will be submitted if appropriate.

ELIS CodesSystems

JE — Engineered Safety Features Actuation System  
BE — Containment Spray System

Components

33 — Switch, Position  
ISV — Valve, Isolation