

NORTHEAST UTILITIES

NU
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

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October 25, 1989
MP-13660

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

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

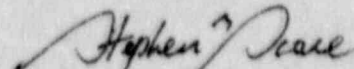
Reference: Facility Operating License No. NPF-49
Docket No. 50-423
Licensee Event Report 86-011-01

Gentlemen:

This letter forwards Licensee Event Report 86-011-01, a revision to Licensee Event Report 86-011-00 which was submitted on March 4, 1986, pursuant to 10CFR50.73(a)(2)(iv), any event or condition that resulted in automatic actuation of any Engineered Safety Feature (ESF).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



Stephen E. Scace
Station Superintendent
Millstone Nuclear Power Station

SES/RDC:mo

Attachment: LER 86-011-01

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

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LICENSEE EVENT REPORT (LER)

Estimated burden per response to comply with this information collection request: 50.0 hrs. Forward comments regarding burden estimate to the Records and Reports Management Branch (p-530), U.S. Nuclear Regulatory Commission, Washington, DC 20555, 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) **0 5 0 0 0 4 2 3** PAGE (3) **1 OF 0 2**

TITLE (4) **Control Building Isolation Signals Due to Noise Spike**

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 NAMES		
0 2	0 5	8 6	8 6	0 1 1	0 1	1 0	2 5	8 9	0 5 0 0 0 0 0 0 0 0 0 0		

OPERATING MODE (9) **3** THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

20.402(d)	20.402(e)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(b)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(b)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	OTHER (Specify in ABSTRACT below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	50.73(b)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(b)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(vii)(B)	
20.405(b)(1)(iv)	50.73(b)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME **Robert D. Conway, Sr. Engineer, Ext. 5642** TELEPHONE NUMBER **2 0 3 4 4 7 - 1 7 9 1**

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	
X	I	L	M	O	N	S	4	2	1	N

SUPPLEMENTAL REPORT EXPECTED (14) YES (If yes, complete EXPECTED SUBMISSION DATE:) NO

EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

ABSTRACT (Limit 75 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

This report is being submitted on a recurring problem with the Control Building Inlet Ventilation Radiation Monitors, HVC*RE16A and HVC*RE16B. At random times, interference spikes in the instrument loops caused spurious high radiation alarms. Control Building Isolation (CBI) signals for the respective train were generated as a result. These inadvertent actuations are being reported as a single event.

There were no adverse safety implications associated with this problem. By virtue of fail-safe design, the interference resulted in system actuation to the accident configuration.

The root cause has been identified as both broadcast and conducted electromagnetic interference. In signal processors 3HVC*RIY16A and 3HVC*RIY16B, the interference superimposed on the existing electrical signal representing radiation counts, producing signal levels which momentarily exceeded the high radiation alarm setpoint.

Corrective action consisted of installing a software change in both radiation monitors which prevents alarm generation from signals spikes, yet still provides safe, reliable operation on valid high radiation signals.

**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 Records and Reports Management Branch (p-530), U. S. Nuclear Regulatory Commission, Washington, DC 20555, 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) 0 5 0 0 0 4 2 3	LER NUMBER (6)			PAGE (3) 0 2 OF 0 2
		YEAR 8 6	SEQUENTIAL NUMBER 0 1 1	REVISION NUMBER 0 1	

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

I. Description of Event

This report is being submitted on a recurring problem with the Control Building Inlet Ventilation Radiation Monitors, HVC*RE16A and HVC*RE16B. These monitors are included in the Plant Technical Specification Engineered Safety Features Instrument Block Table 3.3-3. At random times, interference spikes in the instrument loops caused spurious high radiation alarms. Control Building Isolation (CBI) signals for the respective train were generated as a result. These inadvertent actuations are being reported as a single event.

A CBI isolates the Control Room from the outside environment, and after approximately 60 seconds, initiates pressurization by unisolating the Control Room air storage bottles. Even though several dampers reposition, the time delay before bottle discharge is sufficient to allow the operator to recognize that the signal is spurious and reset the CBI before the storage bottles start discharging. Should the storage bottles discharge, Technical Specifications allow continued operation for seven days in accordance with LCO Action 3.8.7.a.1, Operating the Control Room Emergency Air Filtration System in the Recirculation Mode.

II. Cause of Event

Interference sources were investigated by instrumenting portions of the radiation monitor circuitry to trap and identify interference spikes. Once the nature of the interference was understood, the interference spikes were repeated on a test skid which was used to develop and test corrective measures.

The root cause has been identified as both broadcast and conducted electromagnetic interference. Broadcast interference is an electromagnetic signal which enters the signal processing circuitry by propagation through free space (i.e. "radio" interference). Conducted interference is an electrical signal which enters the monitor through wire conductors. In signal processors 3HVC*RIY16A and 3HVC*RIY16B, the interference superimposed on the existing electrical signal representing radiation counts, producing a signal level which momentarily exceeded the high radiation alarm setpoint.

III. Analysis of Event

This report is being submitted in accordance with 10CFR50.73 (a)(2)(iv), as events which resulted in the automatic actuation of an Engineered Safety Feature.

There were no adverse safety implications associated with this problem. By virtue of fail-safe design, the interference resulted in system actuation to the accident configuration.

IV. Corrective Action

Corrective action consisted of installing a software change in both radiation monitors which prevents alarm generation from signals spikes, yet still provides safe, reliable operation on valid high radiation signals.

V. Additional Information

This report is being submitted on a recurring problem with the Control Building Inlet Ventilation Radiation Monitors. The inadvertent actuations are being reported as a single event. There have been no similar LERs with the same root cause and sequence of events.

EIS Codes

Systems
Control Building Ventilation
System - VI

Components
Radiation Monitor - MON