



Northeast
Nuclear Energy

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Millstone Nuclear Power Station
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The Northeast Utilities System

MAY 23 1996

Docket No. 50-336
B15722

Re: 10 CFR 50.73

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

This letter forwards Licensee Event Report (LER) 96-022-00 documenting an event that occurred at Millstone Nuclear Power Station, Unit No. 2 on April 23, 1996. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(ii) and 10 CFR 50.73(a)(2)(vii).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

P. M. Richardson
Director - Millstone Unit No. 2

Attachment: LER 96-022-00

cc: T. T. Martin, Region I Administrator
P. D. Swetland, Senior Resident Inspector, Millstone Unit No. 2
D. G. McDonald, Jr., NRC Project Manager, Millstone Unit No. 2

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY
INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS
LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED
BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN
ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-
6 F33), 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 2

DOCKET NUMBER (2)

05000336

PAGE (3)

1 of 3

TITLE (4)

Single Failure of the Hydrogen Purge Valves will De-Energize the Heaters for Both Trains of the Enclosure
Building Filtration System

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	23	96	96	022	00	05	23	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		0%	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		<input checked="" type="checkbox"/> 50.73(a)(2)(ii)		50.73(a)(2)(x)	
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		<input checked="" type="checkbox"/> 50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

G. P. van Noordennen, Nuclear Licensing Supervisor

TELEPHONE NUMBER (Include Area Code)

(860)440-2084

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On April 23, 1996 at 2123 hours, with the plant in Mode 5 at 0% power, while performing required Technical Specification (TS) surveillances on the Enclosure Building Filtration System (EBFS), it was determined that a single failure of the hydrogen purge valve interlock to the EBFS heaters would de-energize the heaters for both trains of emergency charcoal filtration that service the Spent Fuel Pool and the EBFS. This event is being reported pursuant to the requirements of 10 CFR 50.73(a)(2)(ii)(B), "Any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant," and 10 CFR 50.73(a)(2)(vii), "Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to control the release of radioactive material."

The cause of this event is an error in the original design of the hydrogen purge valve interlock.

A design change will be implemented to correct the single failure susceptibility of the EBFS heaters.

There were no automatic or manually initiated safety systems activated as a result of this event.

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

I. Description of Event

On April 23, 1996 at 2123 hours, with the plant in Mode 5 at 0% power, while performing required Technical Specification (TS) surveillances on the Enclosure Building Filtration System (EBFS), it was determined that a single failure of the hydrogen purge valve interlock to the EBFS heaters would de-energize the heaters for both trains of emergency charcoal filtration that service the Spent Fuel Pool and the EBFS.

There were no automatic or manually initiated safety systems actuated as a result of the event. Additionally, no operator action was required in response to this event.

II. Cause of Event

The cause of this event is an error in the original design of the hydrogen purge valve interlock.

III. Analysis of Event

This event is being reported pursuant to the requirements of 10 CFR 50.73(a)(2)(ii)(B), "Any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant," and 10 CFR 50.73(a)(2)(vii), "Any event where a single cause or condition caused at least one independent train or channel to become inoperable in multiple systems or two independent trains or channels to become inoperable in a single system designed to control the release of radioactive material."

The hydrogen purge valve interlock was installed to prevent operation of the EBFS heaters during hydrogen purge operations following a LOCA. There are two trains of hydrogen purge. Each train contains two valves in series. The heaters are automatically de-energized by operation of a "Valve Not Closed" limit switch. The design basis for the hydrogen purge valve interlock requires that opening any one of the four valves would remove from service both EBFS charcoal filter heaters. Both trains of hydrogen purge feed into common ductwork for the EBFS. Therefore, the post accident containment atmosphere can be directed through either train of EBFS. The interlocks were installed to prevent the operation of the heaters whenever any containment flow path was directly opened into the EBFS plenum. This design ensures the heaters would be deactivated whenever a post accident containment environment was aligned and a potentially combustible hydrogen condition exists. However, this design also defeats single failure requirements since the failure of one limit switch or the interlock would cause both trains of the charcoal heaters to become inoperable.

The EBFS heaters are required to be energized to support EBFS operation during modes 1 through 4, the 10 hour monthly surveillance and auxiliary exhaust actuation system (AEAS) operation in modes 1 through 6. This requirement meets the design intent of regulatory guide (RG) 1.52, which states, "Each ESF atmosphere cleanup train should be operated at least 10 hours per month, with the heaters on (if so equipped), in order to reduce the buildup of moisture on the adsorbers and HEPA filters." The TS requirements of charcoal efficiency require that the charcoal be tested to 30 degree Celsius and 95 percent relative humidity, when tested to ASTM D3808-1989 standards. Final Safety Analysis Report section 6.7.2.1 describes that the heaters are designed to maintain filter elements below 60% relative humidity. Therefore, the testing criteria performed to satisfy the TS surveillance is more conservative because it verifies the charcoal efficiency at a relative humidity of 95% (assumes no heaters).

The safety significance of this event is low, since EBFS is capable of performing its safety function without crediting the operation of the heaters.

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

IV. Corrective Action

A temporary modification was installed, which defeats the interlock function. This modification was required to support the movement of spent fuel, which requires the AEAS to be operable.

A design change will be implemented to correct the single failure susceptibility of the EBFS heaters prior to startup from the current outage.

V. Additional InformationSimilar Events

None

Manufacturer Data

EHS Codes

Enclosure Building Filtration System - BH