Northeast
Utilities System

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February 3, 1997
Docket No. 50-336
B16180

Re: 10 CFR 50.73(a)(2)(ii)

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

This letter forwards Licensee Event Report (LER) 97-001-00, documenting an event that occurred at Millstone Nuclear Power Station, Unit No. 2 on June 21, 1996. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(ii).

The following are NNECO's commitments made within this letter. All other statements made within this letter are for information only.

B16180-01: A design change will be implemented to partially remove the combustible cork material and replace it with a qualified, non-combustible fire seal material. The design change will be implemented prior to startup from the current outage.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

J. A. Price
Director - Millstone Unit No. 2

050018

cc: see page 2

IE22

Attachment: LER 97-001-00

cc: W. D. Travers, Director of Special Projects
H. J. Miller, Region I Administrator
D. P. Beaulieu, Senior Resident Inspector (Acting), Millstone Unit No. 2
D. G. McDonald, Jr., NRC Project Manager, Millstone Unit No. 2

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104

EXPIRES 04/30/98

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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Millstone Nuclear Power Station Unit 2	05000336	1 OF 3

TITLE (4)

Inadequate Fire Seal Material Installed Between Some Appendix R Fire Areas

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
06	21	96	97	-- 001 --	00	02	03	97	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
		20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)	000	20.2203(a)(1)	20.2203(a)(3)(i)	X 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)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
R. T. Laudenat, MP2 Nuclear Licensing Manager	(860) 444-5248

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X NO				

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

On June 21, 1996, it was discovered that a combustible material was found installed between Appendix R fire areas. The material was identified as cork (Homcork), and it was found to be in a degraded condition. The cork was used during original construction as a filler material in the seismic gap openings of the wall interfaces. It was found between the containment structure and the Auxiliary Building in the east and west penetration rooms as well as between the penetration rooms and the Enclosure Building. After plant startup, the walls between the east and west penetration rooms were credited in the Unit No. 2 Appendix R analysis to provide separation between redundant trains of safe shutdown Appendix R equipment. The existence of intervening combustible material in the barrier separating the east and west penetration rooms places the fire barrier outside the design basis of the Appendix R analysis.

The cause of the event was an error in the evaluation of the combustibility of the cork material. The cork is an original plant installation which was not identified as a combustible material that forms part of the required fire barriers.

Upon identification of this event, compensatory measures were implemented by establishing fire watches as required by the Unit No. 2 Technical Requirements Manual fire protection section. A design change will be implemented to partially remove the combustible cork material and replace it with a qualified, non-combustible fire seal material.

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Millstone Nuclear Power Station Unit 2	05000336	97	-- 001 --	00	2 OF 3

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

I. Description of Event

On June 21, 1996, it was discovered that a combustible material was found installed between Appendix R fire areas. The material was identified to be cork (Horncork) [SEAL], and it was found to be in a degraded condition (loss of resiliency, dry and brittle). The cork was used during original construction as a filler material in the seismic gap openings of the wall interfaces. It was found between the containment structure and the Auxiliary Building in the east and west penetration rooms as well as between the penetration rooms and the Enclosure Building. After plant startup, the walls between the east and west penetration rooms were credited in the Unit No. 2 Appendix R analysis to provide separation between redundant trains of safe shutdown Appendix R equipment. This equipment consists of cables [CBL] for Appendix R instrumentation, cables for both Emergency Diesel Generators [EK], and the equipment for the Unit No. 1 to Unit No. 2 electrical crosstie. At the time of discovery of this event, the unit was in Mode 5 at 0 percent power.

The walls between the east and west penetration room areas are fire separation barriers as described in the Appendix R compliance report issued to the NRC, dated April 16, 1987. This report states that there are no intervening combustibles in the walls separating the east and west penetration rooms. The discovery of the degraded cork compromises the separation requirement of the fire barrier in that a fire could propagate between these two areas through the cork material.

This event was initially reviewed as being not reportable based on the determination that the cork did not significantly increase the risk to safe shutdown components by a fire spreading from one penetration area to the other. An event reported at Calvert Cliffs Unit No. 2 in 1995 identified that an actual fire in degraded cork material used in expansion joints breached a fire barrier. Based on further review of the Calvert Cliffs event, this event is considered to be reportable under 10 CFR 50.73(a)(2)(ii)(B), any event that resulted in a condition that was outside the design basis of the plant. The existence of intervening combustible material in the barrier separating the east and west penetration rooms places the fire barrier outside the design basis of the Appendix R analysis.

II. Cause of Event

The cause of the event was an error in the evaluation of the combustibility of the cork material. The cork is an original plant installation which was not identified as a combustible material that forms part of the required fire barriers.

III. Analysis of Event

The east and west penetration room areas contain cables for redundant trains of Appendix R instrumentation, cables for both emergency diesel generators, and the equipment for the Unit No. 1 to Unit No. 2 electrical crosstie. A single fire affecting both areas could hinder the safe shutdown of the plant. The term "fire area" as used in Appendix R describes an area sufficiently bounded to withstand the hazards associated with the fire and, as necessary, to protect important equipment within the fire area from a fire outside the area. Separation between the two penetration areas is provided by rated fire barriers, which are the concrete walls, and by seal material between the fire areas. The functional integrity of the fire barriers ensure that a fire will be confined or adequately retarded from spreading to adjacent areas.

The cork material does not significantly increase the risk of fire spreading from one penetration area to the other and compromise the function of redundant safe shutdown equipment. This is due to various factors that mitigate the spread of fire. These factors include the following: (1) the configuration of the fire barrier between the penetration rooms (curved surface with low probability for direct flame through); (2) the fire barrier includes the

fuel transfer canal structure and approximately 8 feet of distance with no intervening combustibles; and, (3) early warning of a fire is provided by smoke detection systems installed in each penetration room.

Based on the above, this event is not safety significant.

IV. Corrective Action

As a result of this event, the following actions have been, or will be, performed.

1. Upon identification of this event, compensatory measures were implemented by establishing fire watch as required by the Unit No. 2 Technical Requirements Manual fire protection section.

2. A design change will be implemented to partially remove the combustible cork material and replace it with a qualified, non-combustible fire seal material. The design change will be implemented prior to startup from the current outage.

V. Additional Information

Similar Events

No previous similar events involving the use of inadequate seal material in Appendix R areas was identified.

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].