



**Northeast
Nuclear Energy**

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The Northeast Utilities System
APR - 5 2000

Docket No. 50-336
B18066

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

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

Millstone Nuclear Power Station, Unit No. 2
Licensee Event Report 2000-006-00
Historical Condition: Remote Fire Detector Panel Supervisory Circuits not
Tested in Accordance with Technical Specification Requirements

This letter forwards Licensee Event Report (LER) 2000-006-00, documenting a condition that was discovered at Millstone Nuclear Power Station, Unit No. 2, on March 7, 2000. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(i).

There are no regulatory commitments contained within this letter.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY


C. J. Schwarz
Station Director

Attachment (1): LER 2000-006-00

cc: H. J. Miller, Region I Administrator
J. I. Zimmerman, NRC Project Manager, Millstone Unit No. 2
D. P. Beaulieu, Senior Resident Inspector, Millstone Unit No. 2

IE22

Docket No. 50-336
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Attachment

Millstone Nuclear Power Station, Unit No. 2

LER 2000-006-00

April 2000

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 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1) <p style="text-align: center;">Millstone Nuclear Power Station Unit 2</p>	DOCKET NUMBER (2) <p style="text-align: center;">05000336</p>	PAGE (3) <p style="text-align: center;">1 OF 4</p>
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TITLE (4)
 Historical Condition: Remote Fire Detector Panel Supervisory Circuits not Tested in Accordance with Technical Specification Requirements

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
03	07	2000	2000	-- 006 --	00	04	05	2000	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
		<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input checked="" type="checkbox"/>	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)				
POWER LEVEL (10)	100	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(3)(i)		<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(x)				
		<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 20.2203(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(iii)	73.71				
		<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.73(a)(2)(iv)	OTHER				
		<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(1)		<input type="checkbox"/> 50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A				
		<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(vii)					

LICENSEE CONTACT FOR THIS LER (12)

NAME <p style="text-align: center;">R. Joshi, MP2 Acting Regulatory Compliance Supervisor</p>	TELEPHONE NUMBER (Include Area Code) <p style="text-align: center;">(860) 440-2080</p>
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/>	NO						

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

On March 7, 2000, it was discovered that the supervisory circuitry for certain fire detection instruments may not have been historically inspected in accordance with Technical Specification (TS) surveillance requirements. TS surveillance requirements stated that the circuitry associated with the supervision of the fire detection instruments be demonstrated OPERABLE on a periodic basis not to exceed six months. Upon further review of this condition, it was determined on March 8, 2000 that from March, 1978, to November, 1995, a small segment of the instrumentation was not regularly or fully tested to the specific TS requirement.

The cause of the event was failure to properly incorporate Technical Specification surveillance requirements into plant surveillance procedures.

As a result of this condition the circuitry for the fire detectors that had not been historically inspected was tested satisfactorily to the proper surveillance requirements. Further corrective actions will be addressed by the Millstone Corrective Action Plan.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
Millstone Nuclear Power Station Unit 2	05000336	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		2000	-- 006	-- 00	

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

I. Description of Event

On March 7, 2000, it was discovered that the supervisory circuitry for certain fire detection [IC] instruments may not have been historically inspected in accordance with Technical Specification (TS) surveillance requirements. TS surveillance requirements stated that the circuitry associated with the supervision of the fire detection instruments be demonstrated OPERABLE on a periodic basis not to exceed six months. Upon further review of this condition, it was determined on March 8, 2000 that from March, 1978, to November, 1995, a small segment of the instrumentation was not regularly or fully tested to the specific TS requirement. At the time of discovery the unit was in Mode 1 at 100 percent power.

Fire protection testing requirements initially added to the TS via Amendment 35 (March, 1978) are no longer contained in the Technical Specifications. These requirements were removed by Millstone Unit No. 2 License Amendment No. 191 issued in November, 1995, and now reside in the Technical Requirements Manual (TRM). The basis for their removal was per the guidance contained in Generic Letter 86-10. Between March, 1978, and the issuance of Amendment No. 191, Technical Specification Surveillance Requirement 4.3.3.7.2 included requirements for circuitry associated with the supervision of fire detection instruments and circuits. It was determined however that some detector supervisory circuits connected to local panels [PL], other than the main fire panel, had not been periodically tested.

There are 26 fire zones with supervisory circuits required to be monitored and tested to TRM requirements. Thirteen of these fire zone circuits have their signals directly fed from the detector to the main fire panel in the control room and are adequately tested to the TRM requirements by daily shift checks. The additional thirteen zones have their signals fed first to a remote panel in the field and then relayed to the main fire panel. The daily testing of the main fire panel verifies the operability of the circuits from the remote panels to the main fire panel but does not verify the operability of the circuits from the detector to the remote panel. Of these thirteen additional zones nine of them have had their circuitry from the detector to the remote panel satisfactorily tested at the required frequency by other procedures. It was unable to be determined that the circuits from the detector to the remote panel for the four remaining zones have historically been adequately tested from March, 1978, to the present. However, since the testing requirements for these circuits were removed from the Technical Specifications in November 1995, this condition was only a violation of the facility Technical Specifications from March 1978 to November 1995.

This condition is historical and is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B), as any operation or condition prohibited by the plant's Technical Specifications.

II. Cause of Event

The cause of the event was failure to properly incorporate Technical Specification surveillance requirements into plant surveillance procedures.

III. Analysis of Event

The fire protection program at nuclear power plants, including Millstone, is based on the defense in depth concept. This concept (design bases) is comprised of three barriers:

1. Fire prevention.
2. Rapid detection, control, and suppression.

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

3. Protection of structures, systems, and components, such that a fire which is not promptly extinguished will not prevent safe shutdown of the plant.

The defense in depth concept recognizes that while no one barrier can be perfect, maintaining multiple barriers ensures that a fire at a plant will not endanger the general public.

For the deficiencies identified two of the three barriers were unaffected while the second line of defense to detect a fire was potentially affected. Plant work control processes control transient combustibles and ignition sources. Compensatory measures are established as necessary to control these risks. The plant's fire brigade is available to respond as necessary, to control and suppress any fires. Although some supervisory circuits were not regularly or fully tested, the alarm function of these detector systems have been properly tested per existing procedures which verifies continuity of field wiring. The 4 sub-panel supervisory circuits that were not regularly tested included smoke and heat detectors only. There are no fire suppression systems associated with these sub-panels. When an alarm comes in on any of these circuits, manual Operator response is required.

The supervisory circuit, consisting of the panel circuitry and field wiring to the detectors, works by monitoring a small current in the loop and responds by activating a trouble alarm if the current is not present or falls below a predetermined threshold. Failure of the panel circuitry to respond to an abnormal supervisory current condition, including loss of continuity of field wiring beyond the last detector in a string, does not affect the ability of the system to detect and relay a fire alarm in response to a fire.

Undetected failure of a supervisory circuit's ability to detect and respond to an abnormal current condition, coupled with a simultaneous failure of the field wiring at a detector, could result in an unidentified loss of those detectors. This would have a potential safety significance in that a fire in these areas could go undetected for a period of time longer than expected. This could have diminished the second line of defense, however each of the sub-panels were satisfactorily tested on March 8, 2000.

The areas affected included: Containment East & West Electrical penetrations; RCP heat detectors; -5" & 14'6" Auxiliary Building General areas; -5' West Piping Penetration area; -25' Auxiliary Building and Charging Pump Rooms; and the -45' Safeguards Rooms.

Due to the defense-in-depth approach to fire protection, had the ability to detect a fire been diminished the remaining barriers would have limited the fire's extent and subsequent damage to safety-related equipment. It is also likely that other plant or component alarms would alert Operations to the presence of an abnormal condition, prompting appropriate response. However, there is no actual safety significance because the previously untested sub-panels were tested on March 8, 2000, and all supervisory circuits worked as designed. With the redundancy of plant equipment and fire protection barriers for safety significant structures the plant would still be able to shutdown while a fire burned undetected.

Based on the above, this condition was not safety significant.

IV. Corrective Action

As a result of this condition being discovered, the following actions have been taken:

For the identified fire detection circuitry, testing has been satisfactorily completed.

In addition, other corrective actions are being addressed via the Millstone Corrective Action Program.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

V. Additional Information

Similar Events

Previous LERs that involve deficient fire protection surveillance procedures include:

LER 95-024: Incorrect Surveillance Frequency for Fire Detection Instrumentation

LER 97-003: Historical Technical Specification Noncompliance of Plant Surveillance Procedure Used to Perform Periodic Inspection of Fire Protection System Smoke Detectors

LER 97-022: Technical Specification Violations

LER 98-017: Fire Protection Program Deficiencies

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