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May 30, 1989 MP-13130

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

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

Reference: Facility Operating License No. DPR-65 Docket No. 50-336 Licensee Event Report 89-005-00

Gentlemen:

This letter forwards Licensee Event Report 89-005-00 required to be submitted within thirty (30) days pursuant to paragraph 50.73(a)(2)(iv).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Ephen cace Stephen E. Scace

Station Superintendent Millstone Nuclear Power Station

SES/KDD:mo

Attachment: LER 89-005-00

cc: W. T. Russell, Region I W. J. Raymond, Senior Resident Inspector

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(9-83) LICENSEE EVENT KEPORT (LER)	U.S. NUCLE AP EX	AR REGULATORY (PROVED OMB NO. PIRES: 8/31/88	COMMISSION 3150-0104
FACILITY NAME (1) Millstone Nuclear Power Station Unit 2	DOCKET NUM	1BER (2)	PAGE (3)
TITLE (4)			I CAL OL S
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OPERATING THIS REPORT IS BEING SUBMITTED FURSUANT TO THE REQUIREMENTS OF	10 CFR §: (Check or	ne or more of the fol	llowing)(11)
20.402(b) 20.4J2(c) X 50.73(c)	1) (2) (iv)	73.71(b)	
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(10) 0 0 0 20 405 (a) (1) (ii) 50.35 (c) (2) 50.73. (a) (2) (vii)	Abstract bei	low and in Form 366A)
20.405(a)(1)(iv) 50.73(a)(2)(iii) 50.73(a)	(2) (VIII) (B)		
LICENSEE CONTACT FOR THIS LER (12)			Rodent of Lawrence & Lawrence and a stranger
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X YES (If yes, complete EXPECTED SUBMISSION DATE) NO	DAVE (15) 1 2	3 1 9 0
 ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (36) On March 30, 1989 at 0340 hours, with the reactor critical, power level a mode 2, at normal temperature and pressure. Instrument and Control per reinstalling the Automatic Test Insertion (ATI) module in the Engineered (ESAS). The reinstallation was being made following troubleshooting on The ATI automatically tests the various logic combinations for ESAS sign sending a 2 millisecond signal through the instrument loop. During reinst connector did not mate smoothly with the ESAS cabinet socket. The int the module into position caused the ATI circuit to send signals greater th three Safety Injection Actuation Signal (SIAS) modules to actuate. The control room operators immediately responded in accordance with A SIAS modules were inadvertently actuated, and that only the equipment had been affected [both Boric Acid pumps started, valve 2-CH-514 (Bori opened, Chiller X169B started and the "B" amd "D" Containment Air F to slow speed]. The operators then restored the actuated equipment to it There were no safety implications because all actuated equipment responded Similar Events: LER 84-001 and 88-004. 	at 10-4 percent rsonnel were in Safeguard Actu an unrelated pr als. It does this callation, the AT ermittent conne an the normal p OP 2571 and v controlled by th ric Acid pump of Recirc (CAR) fa ts normal condi ded as expected	and the plant the process of uation System oblem. s by actually TI module ction while slid oulse thus allow erified that the e three module discharge valve ns shifted from tion.	in ling ving es) i fast

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U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104 EXPIRES 8/31/88

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional MRC Form 366A s) (17).

Description of Event

On March 30, 1989 at 0340 hours, with the reactor critical, power level at 10-4 percent and the plant in mode 2 at normal temperature and pressure, Instrument and Control personnel were in the process of reinstalling the Automatic Test Insertion (ATI) module in the Engineered Safeguard Actuation System (ESAS). The reinstallation was being made following troubleshooting on an unrelated problem.

The ATI automatically tests the various logic combinations for ESAS signals. It does this by actually sending a 2 millisecond signal through the instrument loop. During reinstallation, the ATI module connector did not mate smoothly with the ESAS cabinet socket. The intermittent connection while sliding the module into position caused the ATI circuit to send signals greater than the normal pulse thus allowing three Safety Injection Actuation Signal (SIAS) modules to actuate.

The control room operators immediately responded in accordance with AOP 2571 and verified that the SIAS modules were inadvertently actuated, and that only the equipment controlled by the three modules had been affected [both Boric Acid pumps started, valve 2-CH-514 (Boric Acid pump discharge valve) opened, Chiller X169B started and the "B" and "D" Containment Air Recirc (CAR) fans shifted from fast to slow speed]. The operators then restored the actuated equipment to its normal condition.

II. Cause of Event

The cause of the event was the sudden power spike during the re-energization of the ATI module.

The root cause of the event is the method required for removing and installing the ATI module and may be termed a hardware design problem. The electrical pins of the module do not engage the socket (located in the ESAS) until the module captive screws are at half travel. The screws are turned down in a sequence so the total module moves in uniformly, otherwise some pins will engage before the others and an inadvertent actuation may occur, as it did in this case.

This is the normal design feature of the ATI module and rarely does the module need to be removed during normal operating conditions.

III. alvsis of Event

event is being reported pursuant to the requirements of paragraph 50.73(a)(2)(iv), a condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF).

The Boric Acid pumps and chiller 169-B are normally off during normal operation. Valve 2-CH-514 is normally closed and the B and D Car fans are normally in fast speed. When the modules (AM615, 618 and 625) actuated due to the inadvertent ATI signal, the Boric Acid pumps and Chiller 169-B started, valve 2-CH-514 opened and the B and D Car fans went to slow speed. The equipment went to its respective accident position. The worst case condition would be that the Boric Acid pumps would tend to take the reactor sub-critical. With the Car fans in slow speed. Containment temperatures might have increased, however operation in response to Containment temperature alarms would correct this condition. Therefore there were no safety consequences as a result of this occurrence.

NRC Form (9-83)	JEEA	T REPORT (LER) TEXT C	ONTI	AUV	U.	S NU	APP	R REGU ROVED RES: 8/	LATORY OMB NC 31/88	COMI 3150-	VISSIO -0104				
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EXT (If m	ore space is required, use additional NRC Form 366.	A s) (17)													
IV.	Corrective Action	Corrective Action													
	A revision to the Instrumentation a technician to advise operations that or reinstalled due to electrical signa Supervisor to remove the actuation while removing or installing the AT	nd Control procedure has random actuation may oc I spiking. The procedure relay fuses which will also I module.	been cur wi revisio preve	mac hen on a nt a	the the ilso an i	allo allo	n dii "I m ws t verte	odule he Shi nt act	ne is rem ft uation	oved					
	Engineering is investigating the poss from the ATI module when removi module will act as an ATI block, w when performing corrective mainter	sibility of installing a key lo ng or installing the moduel which will greatly reduce the nance on the module.	ock sw l. Th e char	itch e re hce	wł mo of	nich wal c an ir	will of po hadv	remov ower fr ertent	e pow om th actuat	er ie tion					
V.	Additional Information														
	Similar LER's: 84-001 and 88-004														
	ESAS Actuation System Vendor: C560 Model: 9N21-6 Component Function: XC														
	ESAS MTI Actuation Module Vendor: C560 Model: 6N91 Component Function: AIK														
	Boric Acid Pumps Vendor: G182 Model: 3198MT Component Funtion: P														
	Containment Air Recirc (CAR) fan Vendor: W121 Model: 366-A7 Component Function: FAN	8													
	Valve 2-CH-514														

Vendor: V085 Model: P-35142 Component Function: V

Chiller X169B Vendor: T265 Model: CGWA-4006-MA Component Function: CHU