

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Millstone Nuclear Power Station Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 3 1 3 1 6	PAGE (3) 1 OF 13
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TITLE (4)
Unrecoverable Dropped CEA

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		DOCKET NUMBER(S)
0	4	0	8	8	8	0	5	0			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)											
POWER LEVEL (10) 0 6 6	20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)		
	20.405(a)(1)(i)			50.38(a)(1)			50.73(a)(2)(v)			73.71(c)		
	20.405(a)(1)(ii)			50.38(a)(2)			50.73(a)(2)(vi)			OTHER (Specify in Abstract below and in Text, NRC Form 306A)		
	20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)					
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)					
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)

NAME John Becker, Assistant Engineering Supervisor	TELEPHONE NUMBER AREA CODE: 2 0 3 4 4 4 - 5 2 3 0
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS
X	A	A	C L C 4 9 0	YES					
X	C	D	C C L A 2 2 0	YES					

SUPPLEMENTAL REPORT EXPECTED (14)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15) MONTH: 0 7 DAY: 0 8 YEAR: 8 8
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ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

The unit had begun a planned shutdown on April 8, 1988 for the repair of known Reactor Coolant System and Steam Generator blowdown valve leaks in containment. At 2237 and at a power level of 99%, CEA #22 dropped into the core. At 2355 and at 66% power, it was determined by Instrument and Control technicians investigating the dropped CEA that the Control Element Drive System for CEA #22 could not be repaired within the time requirements of Technical Specification Action Statement 3.1.3.1.e. and the CEA was declared inoperable. As the condition of CEA #22 would no longer meet the action requirements of Limiting Condition for Operation (LCO) 3.1.3.1, Limiting Condition for Operation 3.0.3. was entered and operators continued the plant shutdown. At 0455 on April 9, 1988, CEA #4 dropped into the core. The plant entered Mode 3 at 0503 on April 9, 1988 and logged out of LCO 3.0.3.

The cause of CEAs #22 and #4 dropping into the core has been determined to be overheating of the upper gripper coil. The cause of the overheating of the upper gripper coils was the degradation of the CEDM cooling system due to air flow blockage of the heat exchanger due to boric acid deposition. The source of the boric acid in the containment environment is still under investigation.

IE22
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		88	008	00	02	OF	03

TEXT (if more space is required, use additional NRC Form 388A's) (17)

I. Description of Event

The unit had begun a planned shutdown at 1900 on April 8, 1988 for the repair of known Reactor Coolant System and Steam Generator Blowdown valve leaks in containment. Prior to the downpower, plant operation had been routine 100% power operation. Boric acid treatment of the secondary side of the Steam Generators had begun on March 31, 1988. At 2237 and at a power level of 99%, CEA #22 dropped into the core. At 2331, power had been reduced to less than 70%, complying with Technical Specification Action Statement (TSAS) 3.1.3.1.e. and the guidance of procedure OP 2556, Dropped CEA Recovery. At 2355, it was determined by Instrument and Control technicians investigating the dropped CEA that the Control Element Drive System (CEDS) for CEA #22 could not be repaired within the time requirements of Technical Specification Action Statement 3.1.3.1.e and the CEA was declared inoperable. At this time reactor power was at 66% and RCS conditions were normal for that power level (557.3°F Tave and 2257 psia). As the condition of CEA #22 would no longer meet the action requirements of Limiting Condition for Operation 3.1.3.1, Limiting Condition for Operation 3.0.3 was entered and operators continued the planned shutdown. At 0455 on April 9, 1988, CEA #4 dropped into the core. The plant entered Mode 3 at 0503 on April 9, 1988 and logged out of LCO 3.0.3.

II. Cause of Event

The cause of CEAs #22 and #4 dropping into the core has been determined by physical examination to have been overheating of their respective upper gripper coils. This overheating caused a loss in resistance in the coil which caused the power supply breakers for those CEAs to trip. This allowed the CEAs to drop into the core.

The cause of the overheating of the upper gripper coils was the degradation of the CEDM cooling system performance due to air flow blockage of the heat exchanger by boric acid from the containment environment.

The root cause investigation of the source of the boric acid which caused the blockage of the CEDM heat exchangers is still in progress.

III. Analysis of Event

This event is being submitted pursuant to 10CFR50.73(a)(2)(i)(B). Although during this event the plant was operated in compliance with its Technical Specifications, the reliance on the Limiting Condition for Operation 3.0.3 is considered to be a condition prohibited by the plant's Technical Specifications and therefore is reportable as discussed in NUREG 1022 Supplement 1 Section 2.4.

The event has no safety consequences. The failure of a coil causes the CEA to fully insert into the core, a condition covered by plant procedures. Plant operation was performed in accordance with operating procedures for the conditions present.

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TEXT (if more space is required, use additional NRC Form 366A x) (17)

IV. Corrective Action

The Control Element Drive System coils for CEAs #22 and #4 were replaced. As a result of the inspection of all CEA coils, CEA #5 was found with a high resistance reading in its lift coil due to a loose wire and was also replaced. The boric acid was removed from the CEDM cooling system heat exchangers. All known RCS and Steam Generator secondary side leaks were repaired. The unit was restored to service and synchronized at 2124 on April 14, 1988 and reached 100% power on April 16, 1988 at 2040.

Since startup, boric acid deposition on the CEDM heat exchangers has continued. Close monitoring of the effects of this boric acid buildup is ongoing. This process includes CEDM fan current and discharge temperature monitoring, CCTV monitoring of the reactor cavity and loop areas and temperature monitoring of the CEDM coils and exiting air temperature. A followup LER will be submitted concerning the issue of the boric acid deposition.

V. Additional Information

The CEDM coils were supplied by Combustion Engineering model #CNDE3356-1.

EIIS Code: AA Component Code: CL

The CEDM heat exchangers were manufactured by American Air Filtration, Inc. and are model number 23-108-4CWS-11.

EIIS Code: CD Component Code: CCL

No similar events have occurred.

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
MILLSTONE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

General Offices • Seiden Street, Berlin, Connecticut

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HARTFORD, CONNECTICUT 06141-0270
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May 6, 1988
MP-11792

Re: 10CFR50.73(a)(2)(1)(B)

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 88-008-00

Gentlemen:

This letter forwards the Licensee Event Report 88-008-00 required to be submitted within thirty days pursuant to paragraph 50.73(a)(2)(1)(B)

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

A handwritten signature in cursive script that reads "Stephen E. Scace".

Stephen E. Scace
Station Superintendent
Millstone Nuclear Power Station

SES/JDB:cjh

Attachment: LER 88-008-00

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

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