

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Millstone Nuclear Power Station Unit 3

DOCKET NUMBER (2)

05000423

PAGE (3)

1 OF 2

TITLE (4)

Feedwater Isolation with Reactor Trip Due to Steam Generator Water Level Transient

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)	
02	07	86	86	013	0	03	06	86			050000	
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)									
1			20.402(b)			20.405(c)			<input checked="" type="checkbox"/> 50.73(a)(2)(iv)			73.71(b)
POWER LEVEL (10)			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(iv)			73.71(c)
0115			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)
			20.405(a)(1)(iii)			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

Keith Jensen, Associate Engineer

TELEPHONE NUMBER

AREA CODE

2101341471-1171911

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
X				N					

SUPPLEMENTAL REPORT EXPECTED (14)

☐ YES (If yes, complete EXPECTED SUBMISSION DATE)☒ NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

On 2/7/86 at 0905 hours, while in Mode 1 (Power Operation) at 15% power, a Feed Water Isolation Signal (FWIS) was generated when Steam Generator 2 level increased to 82%. All Engineered Safety Feature Systems actuated properly. Recovery from the FWIS resulted in a reactor trip at 0909 when Steam Generator 3 level decreased to the low-low level trip setpoint. Operators verified the opening of all reactor trip breakers and full insertion of all control rods. Plant stability was achieved at 0930.

Subsequent investigation revealed that the root cause of both the FWIS and reactor trip was a large steam demand from a lifted relief valve in the Auxiliary Steam System, coupled with an initially high Feedwater Regulating Valve Bypass Valve (FRVBV) controller setting. In response to decreasing RCS temperature, operators withdrew control rods. The increase in nuclear power caused the FRVBV's to go from 50% to 80% open. This overfeeding caused the FWIS. Continued steam demand caused a decrease in Steam Generator level and a subsequent reactor trip.

As a corrective action, the relief valve setpoint was raised. The FRVBV controller gain was decreased following system grooming to provide a more controlled response to nuclear power inputs.

This report is being submitted as required by 10 CFR 50.73 (a) (2) (iv).

FE22  
11

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/86

FACILITY NAME (1)  Millstone Nuclear Power Station Unit 3	DOCKET NUMBER (2)  0 5 0 0 0 4 2 3 8 6	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
			0 1 3	0 0	0 2	OF	0 2

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

On 2/7/86 at 0905 hours, while in Mode 1 (Power Operation) at 15% reactor power, a Feed Water Isolation Signal (FWIS) was received when Steam Generator 2 level exceeded 82%. All Engineered Safety Feature Systems actuated properly. Recovery from the FWIS resulted in a reactor trip at 0909 when Steam Generator 3 level reached the Low-Low level trip setpoint. Operators verified the opening of all reactor trip breakers and full insertion of all control rods.

Restoration from the reactor trip was in accordance with plant procedures and plant stability achieved at 0930.

Subsequent investigation revealed that the root cause of both the FWIS and reactor trip was a large steam demand from a lifted relief valve in the Auxiliary Steam System, coupled with an initially high Feed Water Regulating Valve Bypass Valve (FRVBV) controller setting. With Auxiliary Steam being supplied by Main Steam, the premature lifting and failure to reseal of the relief valve created a steam demand. Operators withdrew control rods in an attempt to maintain RCS temperature. The positive reactivity from the cooldown and rod withdrawal caused reactor power to increase to 19%.

The FRVBV's were in "Auto" controlling Steam Generator level. The increased nuclear instrumentation input to the FRVBV controller, coupled with the initially high controller gain, caused the FRVBV's to increase from 50% to 80% open. Although the operator quickly closed the FRVBV's, the initial feedwater insurge was sufficient to cause a FWIS on Steam Generator 2 at 0905.

Steam demand from the lifted relief valve continued. In response to decreasing Steam Generator level, the operator reset FWIS, started the Motor Driven Feed Water Pump and the two Motor Driven Auxiliary Feed Water Pumps. Steam Generator level could not be maintained, and the reactor trip on Steam Generator 3 level at 0909 resulted. Temperature continued to decrease, and the operator initiated Immediate Boration. The transient was over at 0930 when the relief valve seated and temperature recovered.

As a corrective action, the relief valve was examined and found to have a low lift setpoint. It was reset to its proper setting, thus preventing further premature lifting. The initial FRVBV controller gain was found to be higher than the final gain determined during FRVBV grooming. The gain was decreased following system grooming to provide acceptable FRVBV response to changes in nuclear power.

There were no safety implications to the public as all equipment performed its intended safety function. The FWIS on Steam Generator Level provides equipment protection.

This report is being submitted as required by 10CFR50.73 (a) (2) (iv).

# NORTHEAST UTILITIES



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

General Offices • 511en Street, Berlin, Connecticut

P.O. BOX 270  
HARTFORD, CONNECTICUT 06141-0270  
(203) 666-6911

March 6, 1986  
MP-8785

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

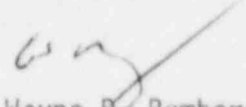
Reference: Facility Operating License No. NPF-49  
Docket No. 50-423  
Licensee Event Report 50-423/86-013-00

Gentlemen:

This letter forwards Licensee Event Report 86-013-00 required to be submitted within thirty days pursuant to 10CFR50.73 (a) (2) (iv), any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF).

Yours truly,

NORTHEAST NUCLEAR ENERGY COMPANY

  
Wayne D. Romberg  
Station Superintendent  
Millstone Nuclear Power Station

WDR/KJ:se

Attachment: LER 86-013-00

cc: Dr. T. E. Murley, Region I

TE22  
1/1