NRC FORM 366 (7-77)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

Line	Field	Value
01	Licensee Code (2)	C T M N S 2
	License Number (3)	0 0 - 0 0 0 0 0 - 0 0
	License Type (4)	4 1 1 1 1
	CAT (5)	
CON'T 01	Report Source (6)	L
	Docket Number (7)	0 5 0 0 0 3 3 6
	Event Date (8)	0 3 1 8 8 3
	Report Date (9)	1 2 0 9 8 3

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

A non conservative safety analysis assumption was discovered by NNECo in Millstone 2 Steam Generator Tube Rupture analysis. These assumptions involved the use of a low steam generator pressure and atmospheric steam dumps in manual mode. Utilizing more conservative assumptions increase the radiological dose during a postulated tube rupture event. Recent tests show additionally the M.S. Safety Valves may release more steam than originally assumed. This could result in further increases in the rad dose however still a small fraction of 10CFR100 limits. Similar LER: none.

System Code (11)	Cause Code (12)	Cause Subcode (13)	Component Code (14)	Comp Subcode (15)	Valve Subcode (16)
H B	X	Z	Z Z Z Z Z Z	Z	Z

LER/RO Report Number (17)	Event Year		Sequential Report No.		Occurrence Code	Report Type		Revision No.
	8 3	—	0 0 7	/	0 1	T	—	1

Action Taken (18)	Future Action (19)	Effect on Plant (20)	Shutdown Method (21)	Hours (22)	Attachment Submitted (23)	NPRD-4 Form Sub. (24)	Prime Comp. Supplier (25)	Component Manufacturer (26)
X	Z	Z	Z	0 0 0 0	Y	N	Z	Z 9 9 9

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The current SGTR analysis did not consider the impact of a high initial steam generator pressure and atmospheric steam dump valves in automatic. Also recent valve manufacturer tests indicate a larger safety valve blowdown than previously considered in reanalysis. NNECo is currently analyzing the radiological consequences of the SGTR reanalysis.

Facility Status (28)	% Power (29)	Other Status (30)	Method of Discovery (31)	Discovery Description (32)
C	0 0 2	NA	D	Notified by Internal Engineering Group

Activity Released (33)	Content of Release (34)	Amount of Activity (35)	Location of Release (36)
Z	Z	NA	NA

PERSONNEL EXPOSURES

Number (37)	Type (38)	Description (39)
0 0 0	Z	NA

PERSONNEL INJURIES

Number (40)	Description (41)
0 0 0	NA

8312300136 831209
PDR ADOCK 05000336
S PDR

LOSS OF OR DAMAGE TO FACILITY (43)

Type (42)	Description
Z	NA

IE22 1/1

PUBLICITY

Issued (44)	Description (45)	NRC USE ONLY
N	NA	

NAME OF PREPARER Edwin R. Foster

PHONE 203-447-1791 X 4416

ATTACHMENT TO LER 83-07/01T-1
NORTHEAST NUCLEAR ENERGY COMPANY
MILLSTONE NUCLEAR POWER STATION - UNIT 2
PROVISIONAL LICENSE NUMBER DPR-65
DOCKET NUMBER 50-336

Summary

During an in-house Steam Generator Tube Rupture (SGTR) reanalysis to support Cycle 6 operation, Northeast Nuclear Energy Company (NNECo) determined that the original analysis did not take into account an initial condition of high steam generator pressure and the possibility of the Atmospheric Steam Dump valves opening. With these more conservative factors this March 1983 reanalysis showed that the dose to the thyroid at the site boundary during a postulated SGTR event could increase from .006 REM to approximately .25 REM.

Recent tests by the manufacturer of Millstone Unit 2's Main Steam Safety Valves show these valves could possibly reseat at 7 to 12% below lift pressure, instead of reseating at lift pressure as was assumed in the reanalysis for Cycle 6 operation. A preliminary, non QA verified, reanalysis which takes this increased safety valve blowdown into account shows a possible increase in steam released of 229% of that shown in the March 1983 reanalysis. Radiological effects of this increased release is expected to be determined and QA verified shortly after start-up for Cycle 6 operation. Complete results will be submitted at that time.

Details

In March 1983, LER 83-07/01-T-0 reported that one aspect of the original Millstone 2 SGTR analysis was non-conservative. The original analysis utilized a low steam generator pressure and the atmospheric steam dumps in manual mode to give the maximum primary to secondary flow rate through a tube rupture. While doing a reanalysis to support Cycle 6 operation Northeast Nuclear Energy Company (NNECo) determined that a more conservative assumption would be a high steam generator pressure and atmospheric steam dumps in automatic mode. Utilizing these assumptions for the SGTR analysis, the dose to the thyroid at the site boundary could increase from .006 REM to approximately .25 REM. As reported this remains below 10CFR100 limits of 300 REM to the thyroid at the site boundary.

NNECo recently received notification from Dresser Industries indicating that the Dresser 3707RA Main Steam Safety Valves may not operate as originally expected. Instead of reseating at the expected 5% below opening pressure, these valves may reseat at 7% to 12% as indicated on recent Dresser Industries tests on similar valves. The March 1983 reanalysis assumed safety valves reseat at lift pressure. NNECo has performed a reanalysis of the SGTR event to estimate the radiological impact of the safety valves reseating at a lower pressure. This reanalysis was performed with the RETRAN 02-MOD 02 computer code. In the most conservative case the results of the analysis indicate increased steam releases of 229% above the SGTR reanalysis of April 1983. NNECo is currently analyzing the radiological consequences of the SGTR reanalysis, however, it is expected that the consequences due to the increased steam release will be well below the criteria specified in 10CFR100 and will be bounded by a factor of 4 applied to the results reported in LER 83-07/01T-0 of approximately .25 REM to the thyroid at the site boundary.

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 • Selden Street, Berlin, Connecticut

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

December 9, 1983

MP-5595

Dr. Thomas E. Murley
Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Reference: Facility Operating License DPR-65
Docket No 50-336
Reportable Occurrence RO-50-336/83-07/1T-1

Dear Dr. Murley:

This letter forwards Licensee Event Report 83-07/1T-1. This update provides additional information regarding Steam Generato· Tube Rupture analysis. An additional three copies of the update are enclosed.

Yours truly,

NORTHEAST NUCLEAR ENERGY COMPANY

E. J. Mroczka
Station Superintendent
Millstone Nuclear Power Station

EJM/EF:ejl

Attachment: LER RO-50-366/83-07/1T-1

cc: Director, Office of Inspection and Enforcement Washington, D. C. (30)

Director, Office of Management Information and Program Control, Washington, D.C. (3)

U.S. Nuclear Regulatory Commission, c/o Document Management Branch, Washington, D.C. 20555

1/1
IE22