

Northeast Nuclear Energy

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The Northeast Utilities System

Donald B. Miller Jr., Senior Vice President – Millstone

Re: 10CFR50.73(a)(2)(iv) September 7, 1995 MP-95-277

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 95-032-00

This letter forwards Licensee Event Report 95-032-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(iv).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Donald B. Miller, Jr. Senior Vice President – Millstone Station

DBM/RT:ljs

Attachment: LER 95-032-00

CC: T. T. Martin, Region I Administrator
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2

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POWER	20.4	05(0)(1)()		50 38(2)	(1)			50 73(a)	2)(11)			73.71(c)			
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Philip .	I. Lutzi,	Nuclear Lice	ensing							F	(203) 440)-2072	lude Area	Code)	
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CAUSE SYSTEM COM	TABLE CAUSE			AUSE	E SYSTEM COMPONENT			T MANUFACTURER		REPORTABLE TO NPRDS					
and a second as a second second second		SUPPLEMENT	TAL REPO	RTEXPE	ECTED	(14)				EXE	PECTED	MONTH	DAY	YEAR	
X YES (If yes, complete EXP	ECTED SUE	MISSION DATE)			NO					SUB	MISSION TE (15)	09	01	96	
On August 8, 1 pressure at 226 system within t occurred. Exal diameter recirc Immediate corr stopping the st An event review were provided will be complet This event is bi resulted in a m System RPS.	400 spaces 995, at 55 PSI, the turb minatio culation rective team le w team on a sh ted by anual c	1459 hours the reactor v ine building. n of the area line from the action consis ak and restri- (ERT) was for ort term and January 1, 19 ported pursuor automatic	with the j vas manu Plant re where the dischard sted of m cting acc prmed to l long ter 296. All l ant to the action of	plant in ually tri esponse he stea ge of th nanuall cess to investi m basi ong ter e requir any Er	n mode pped t a was m leak ne B H y tripp the loc gate th s (see m cor remen	ne) e 1 at o from the within kage c eater ing the cal are ne cau Section ts of 1 red Si	60% p norm ccurr Drain e read a for se of on IV e actio 0CFF afety I	oower, the ntrol room and no a red revea s Pump (ctor and y personne the pipe of this LE ons will b R50.73 (a) Feature (l	e RCS t m due to automa led a 14 HDP) to placing al proteo rupture (R). All e comp (2) (iv), i ESF), in	the p the p	erature at eam leak tuation o rtical rupt Heater D plant in m e ERT col term cor by Septe vent or c ing the Re	556° au in a se f safety cure in th rain Tan ode 3, a rective rective ember 1 ondition eactor F	nd RC conda system ne 8" k. and action action , 1996 hthat Protect	s s i.	

NRC F (5-92)	orm 366)	A U.S. NUCLEAR REGULAT LICENSEE EVENT REPORT (I TEXT CONTINUATION	APPROVED BY OMB NO. 3150-0104 EXPIRES: 5/31/95 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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.										
FACILITY	NAME (1)		DOCKET NUMBER (2)	L		LER NUMBER (6)		1	PAGE (3)				
Milistone Nuclear Power Station Unit 2		05000336		YEAR 95	- 032 -		NUMBER 00	02	OF	04			
TEXT (Il more spa	ce is required, use additional copies of NRC Form 366A) (17)			-	L							
L	Des On tem Roc isol isol All Sut Exa	August 8, 1995, at 1459 hours with the apperature at 555° and RCS pressure a form due to a secondary system steam lated locally with the turbine on line, the late main steam to the turbine building actions taken by plant personnel follo bected, except for one of the Main Ste basequent testing revealed the valve's amination of the area where the steam	ne plant in mode t at 2265 PSI, the re leak within the tu herefore, the deci g. wing the trip were am Safety valves setpoint to be 22 h leakage occurre	1 at 60% eactor w irbine b sion wa e appro lifting ir psi bek d revea	6 power vas ma uilding s mad priate mmed pw the iled a	er, the lanually g. The ie to m and ec ately for requir	Reacto trippe steam anually guipme ollowin ed min	or Coolant d from the leak coul y trip the r ont respor g the unit imum.	Syster Contr d not b reactor nses we trip.	n ol and əre as	67		
	dia	meter recirculation line from the disch	harge of the B Hea	ater Dra	ins Pu	mp (H	DP) to	the Heate	er Drain	n Tani	к.		
	The isol ster The est Ca	e event was caused by a secondary s lated with the turbine on line. The dec am to the turbine building. e cause of the pipe rupture was invest ablished as follows: usal Factor 1	ystem steam leak cision was therefo tigated by an Ever	within t ore mad	the tur le to m ew Tea	bine bi anually m (ER	uilding y trip th T). Two	that coul ne reactor o causal f	d not b and is actors	e olate were			
	The pre	e section of piping where the rupture of source to be exceeded.	occurred was deg	raded a	and wa	ater ha	mmer (caused its	s burst				
	The	e root cause was the introduction of si d line when the "B" Heater Drains Pur	ubcooled water in np was stopped.	to the r There	ecirc I were t	ine and wo fact	d subset tors inv	equent dr olved:	aining	of			
	1.	The procedure directed a step sequivalve and the recirc isolation valve be partially fill with subcooled liquid. The recirc line to drain.	ence which resul being open at the he procedure the	ted in b same t n direct	oth th ime. 1 ted the	e heate his allo stopp	er drair owed ti bing of	ns system he recirc the HDP y	subco line to which a	oling ปไอพศ	ed		
	2.	The heater drains system design ind ended pipe to the heater drains tank secured. The system also includes suctions. This provides a potential s	cludes a horizonta k. This design all a flow path of cor source of subcool	al recirc ows the idensat ed liqui	ine w recirc e whic d to th	hich d line to h can e recir	ischarg drain be alig c line.	ges throu when bot ned to the	gh an c th pum e HDP	pen ps ar	θ		
	The combination of a partially filled (draining) recirc line and a subcooled fluid causes a water hammer-susceptible condition to exist.												
1	Causal Factor 2												
	Th	e affected pipe wall had thinned to the	e point that a system	em tran	sient	aused	tensile	e overload	d (ruptu	ure).			
	The bei pip wa de	The root cause was accelerated flow induced erosion/corrosion resulting from the recirc isolation valve being slightly open and/or leaking by. This condition could have been detected by the Erosion/Corrosion pipe inspection program but was not since the pipe is downstream of a normally closed valve. As such, it was not expected to experience high velocity flow for extended periods of time and hence should not have degraded.											

NRC Form 366A (5-92) APPROVED BY OMB NO. 3150-0104 U.S. NUCLEAR REGULATORY COMMISSION EXPIRES: 5/31/95 EXPIRES: 5/31/95 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 50.0 MRS FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND REC BRANCH (MNBB 7714). US NUCLEAR REGUINE COMMISSION WASHINGTON, DC 20555-0001, AND TO THE PAPER AND PEDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503 LICENSEE EVENT REPORT (LER) TEXT CONTINUATION PAGE (3) LER NUMBER (6) FACILITY NAME (1) DOCKET NUMBER (2) SEQUENTIAL REVISION YEAR Millstone Nuclear Power Station 05000336 Unit 2 03 OF 04 95 032 00 TEXT (If more space is required, use additional copies of NRC Form 366A) (17) Historically, the HDP recirc isolation valves have been found slightly open after plant start-up. This was predominantly the case on the "A" HDP based on the operational practice of starting the "A" HDP first. This fact was not captured by the E/C program, so the element of the E/C program which reviews normally closed valves for off-normal operation did not identify the recirc isolation valve's downstream piping as susceptible to E/C. Thus, this section of piping was not inspected. III. Analysis of Event This event is being reported pursuant to the requirements of 10CFR50.73(a)(2)(iv), any event or condition that resulted in a manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS). The reactor was manually tripped due to an unisolable secondary system steam leak within the turbine building. There was no safety consequence as a result of this event. All equipment responded as expected and no safety systems were compromised by this secondary system event. IV. **Corrective Action Reactor Trip** Appropriate measures were taken to stop the steam leak and to restrict access to the local area for personnel protection. The reactor was manually tripped and the plant was placed in Mode 3. Main Steam Safety Valve Lifting After the trip, testing of the main steam safety valve that lifted revealed its setpoint to be 22 psi below the required minimum. Given this setpoint the valve was noted to reseat as expected. The valve closed tightly, once pressure decayed below the reseat level. Simmer testing was completed, confirming the low setpoint, and the valve was adjusted to the required higher relief setpoint. A review of valve history and the fact that the remaining relief valves did not lift following this trip indicates that this is an isolated problem,

Pipe Rupture Causal Factor 1

albeit another case of relief setpoint drift.

An event review team provided short and long term corrective actions to the steam pipe ruptures. Among them:

- (a) Critical piping and components in the Heater Drains System were inspected to identify damage caused by the system transient. The following piping and components were inspected: suction side expansion bellows, heater drains tank internals, subcooling supply piping, recirculation piping, high level dump piping, piping supports and hangers, and component supports. No unacceptable conditions were identified.
- (b) A design review of the Heater Drains System to verify adequacy for all operational conditions, update design documents, and propose design changes as applicable will be performed before revising OP 2320, "Feedwater Heater Drains and Vents," to allow securing two heater drains pumps at greater than 50% power. After completing the design review, Operations and Engineering should review the Alarm Response and Abnormal Operating Sections of this procedure. (Long-term)

Pipe Rupture Causal Factor 2

(a) Heater Drain Recirculation isolation valves 2-HD-45A and 2-HD-45B were visually inspected for erosion/corrosion and signs of seat leakage.

NRC Form 366A (5-92) LICENSEE EVENT REPORT (LER) TEXT CONTINUATION LICENSEE OF MANAGEM U.S. NUCLEAR REGUL® TORY COMMISSION LICENSEE EVENT REPORT (LER) TEXT CONTINUATION APPROVED BY OMB NO. 3150- EXPIRES: 5/31/95 ESTIMATED BURDEN PER RESPONSE TO COMPLY WIT COLLECTION REQUEST 500 HRS. FORWARD CO BURDEN ESTIMATE TO THE INFORMATION AND REGULA WASHINGTON, DC 20565-0001, AND TO THE PROJECT (3150-0104), OFFICE OF MANAGEM WASHINGTON, DC 20503						-01C4	01C4 H THIS N., JRMATION IMENTS REGARDING ORDS MANAGEMENT TORY COMMISSION, IRWORK REDUCTION INT AND BUDGET,							
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EXT at	more apar	ce is required, use additional copies of NRC	Form 386A) (17)			00	001		UN					
	(b)	Other piping systems on valves were inspected for	Unit 2 in si r erosion/co	milar systems or o prrosion. All UT ir	downstr nspectic	ream o ons we	f normally cl re found sati	osed or th sfactory.	nrottled					
	(c)	The Erosion/Corrosion M review of non – standard Erosion/Corrosion Progra	lanual shou operations am. (Short	Id be revised to r before each Refu - term)	equire a eling O	an enh utage	anced SRO i in order to up	and multi odate the	-discip	line				
	(d)	The Erosion/Corrosion Phistorical operations data Following completion of t group to build on this dat	rogram Ma a from Oper the question ta base. (Lo	nual should includ ations, I&C, Engli nnaires, the respo ong-term)	de a sta neering onding p	ndard , and M person	questionnair Maintenance Inel should b	e designe Departme e intervie	ed to el ents. wed as	icit a				
	(e)	Other NU nuclear units sl Program and inspect the with normally closed valv during the enhanced mul	hould inclu downstrea es where th Iti-disciplin	de normally close m pipe during the ne potential exists ne review process	ed valve e next R for mis identifi	s on re efuel (positioned ear	ecirculation li Dutage. Eval pning or leak lier. (Long-1	nes in the uation of - by will t term)	ir E/C other li be addr	nes essed				
	All s will com	short term Corrective Actio be completed by Septemb npletion of corrective action	ns will be c ber 1, 1996. ns.	ompleted by Jan A supplement to	uary 1, ¹ this LE	1996 a ER will	nd long term be submitted	Correctiv to repor	ve Actio t the	ons				
V.	Add	Additional Information												
	Sim	ilar LERs: 91-012-01:	Manual I the Rehe	Reactor Trip Due eater Drain Tank t	to Plant o High F	Condi Pressu	itions Resulti re Feedwate	ng From a r Heater P	a Ruptu Pipe	ire in				
	EIIS	Code: None												