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The Northeast Utilities System Donald B. Miller Jr., Senior Vice President – Millstone

# Re: 10CFR50.73(a)(2)(v)

February 23, 1995 MP-95-066

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 94-043-01

This letter forwards update Licensee Event Report 94-043-01.

Very truly yours, NORTHEAST NUCLEAR ENERGY COMPANY

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

DBM/PHB:ljs

Attachment: LER 94-043-01

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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U.S. NUCLEAR REGULATORY COMMISSION

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

# LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

COLLECTION REQUEST 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECCRDS 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.

FACILIT	Y NAME	(1)	Millst	one Nuclear F	Power St	ation l	Init 2					D	OCKET	NUMBER (2)	3	PAGE (	3) F 4
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ABSTRACT (Limit to 1400 spaces, I.e., approximately 15 single - spaced typewritten lines) (16)

On December 2, 1994, with the plant defueled, charcoal samples from both the Facility 1 and Facility 2 Enclosure Building Filtration System were sent to an independent laboratory to be analyzed for lodine removal efficiency. The laboratory test report, which identified unsatisfactory results was reported to the utility on December 30, 1994. In a similar event on December 17, 1994, with the plant defueled, charcoal samples for the Facility 1 Control Room emergency filtration system were sent to the same laboratory to be analyzed for its lodine removal efficiency. The laboratory test report which identified unsatisfactory results was reported to the utility on January 9, 1995. Previously, in April of 1994, samples from these filtration systems had been tested with satisfactory results.

The root cause of the Enclosure Building Filtration system charcoal efficiency reduction has been attributed to exposure to cleaning and painting chemicals.

NRC Form 386A (5-92)

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### U.S. NUCLEAR REGULATORY COMMISSION

## LICENSEE EVENT REPORT (LER) 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 (\$150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)		LER NUMB	ER (8)		PAC	GE (3)		
		YEAR	SEQUENT	R.	REVISION NUMBER				
Millstone Nuclear Power Station Unit 2	05000336	94	- 043	-	01	02	OF	04	

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

### Description of Event

On December 2, 1994, with the plant defueled, charcoal samples from both the Facility 1 and Facility 2 Enclosure Building Filtration System were sent to an independent laboratory to be analyzed for lodine removal efficiency. The laboratory test report which identified unsatisfactory results was reported to the utility on December 30, 1994. In a similar event, on December 17, 1994, with the plant defueled, charcoal samples for the Facility 1 Control Room emergency filtration system were sent to the same laboratory to be analyzed for its lodine removal efficiency. The laboratory test report which identified unsatisfactory results was reported to the same laboratory to be analyzed for its lodine removal efficiency. The laboratory test report which identified unsatisfactory results was reported to the utility on January 9, 1995.

The results of the laboratory testing are depicted in the following chart. The Technical Specification limit for charcoal efficiency is 95%. The test used to determine the efficiency of the Charcoal Adsorbers is ASTM D3803-1989, which is the most stringent and rigorous test for charcoal efficiency. Charcoal was tested to this standard in April when Millstone Unit 2 submitted a Technical Specifications change, approving the use of this ASTM standard.

System	New Charcoal Installed	April 94 % Eff	December 94 % Eff	April Equipment Hours	December Equipment Hours	Total Run Hours	Percent Drop
Facility 1 CRAC	November 92	99.54	91.54	22.2	390.2	368	8
Facility 2 CRAC	January 93	98.97	Scheduled	40.2	314.1	273.9	N/A
Facility 1 EBFS	November 92	98.67	82.04 83.37	0.75	26	25.25	16.63
Facility 2 EBFS	July 92 Dec 94	95.68 99.69	83.05 Lot M3444	6.60	255.2	348.6	12.63
Lot M 3444	Warehouse Sample	99.69	98.95 98.90				0.74 0.79
Lot M 3410	Warehouse Sample	98.92					
Lot M 3839	Warehouse Sample	99.19	98.47				0.72

A review of the charcoal laboratory results had led to additional questions pertaining to the sampling effectiveness as it relates to charcoal bed representation. Additional samples from within the Facility 1 EBFS charcoal housing were removed and analyzed to determine comparative sampling efficiencies. The results from the test canister testing were 82.04 and 83.37 percent efficiency. The results of four random samples taken from within the charcoal bed itself when tested were 89.15, 88.99, 89.04, and 88.84 percent efficiency. These results identified that the charcoal bed efficiency was actually better than the test canister results. This is believed to be a result of insufficient charcoal depth in the test canisters. The procedure for filling canisters has been corrected to provide specific test canister filling guidance. It should be noted that although these tests did not produce the same results, they did prove that the canister testing produced conservative sample results.

To determine what may have caused the charcoal to fail, an independent laboratory was requested to perform a Gas Chromatography/Mass Spectrometry analysis to identify organic chemicals that had adhered to the charcoal.

LICENSEE EVENT REPORT (LER) 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 MANAGEMEN 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)			LER NUMBER (6)		PAGE (3)				
				YEAR	SEQUENTIAL NUMBER	REVISION NUMBER					
	Millstone Nuclear Power Station Unit 2	05000336		94	- 043 -	01	03	OF	04		
TEXT (#	f more space is required, use additional copies of NRC Form 366A) (17)								-		
	The results of the analysis on the Facility Trichloroethane, Xylene, and Toluene. T thinners. Other cleaning compounds we The design basis of the Enclosure Build Containment structure during a Loss of charcoal system to minimize the public's 10CFR100 limits.	/ 1 EBFS indicated hese compounds are identified in sm ing Filtration Syste Coolant Accident s exposure to loding s exposure to loding	t high c are pre haller tra m (EBF (LOCA), he and	oncen valent aces. S) is f , and p mainta	trations of M in solvents, o to collect leal process the le ain the off site	neral Spir degrease age from eakage th dose les	rits, rs and the rough s than	the			
	The design basis of the Control Room E from a release originating from any of th the operators from iodine exposure so th condition without putting the operators a provided to permit access and occupan- receiving radiation exposures in excess the duration of the accident.	mergency Filtratio e three on site uni hat they may funct at risk, either physi cy of the control ro of 5 rem whole bo	n Syste ts. The ion to p cally or oom un dy, or it	m (CF basis lace M ment der ac s equi	REFS) is to pr for this requi fillstone Unit ally. Radiatio cident condit valent to any	otect the rement is 2 in a saf n protecti ions with part of th	opera to pro e and on is out pe e bod	tors itect stabl rsoni y, for	le nel		
	Following the discovery of this condition Auxiliary Building charcoal filtration syste pool was terminated and will resume wh	in the EBFS on D ems were declared en the charcoal a	ecembr d inope dsorber	er 30, rable. beds	1994, the End All fuel move are declared	closure Be ment in t operable	uilding he spe	and ant fu	el		
	Following the discovery of the condition January 9, 1995, the Facility 1 Control R	of the Facility 1 C oom Emergency F	ontrol R Filtration	locm f n syste	Filtration System was decla	em on red inope	rable.				
	The Facility 2 EBFS was changed out in System Engineer as a result of his review the Facility 2 EBFS is considered operat available for the charcoal installed in the	December as par w of the April test r ble with respect to Facility 2 EBFS.	t of a ro esults. charco	utine ( There al effic	changeout re fore, with nev siency. Batch	commend w charcoa test resu	ded by al insta Its are	the lled,			
	As a result of the charcoal degradation e charcoal in stock was performed. It was preferred to provide better performance charcoal with 5 percent TEDA impregna for Millstone Unit 2. This charcoal was s 99.75% when tested in accordance with charcoal has been installed in the Facilit system. Since the Facility 2 EBFS was r stay in service unless future testing resu	evident in the othe a determined that a than what is curre- tion was chosen to supplied to Millstor the ASTM D3803 y 1 EBFS and Fac ecently changed y Its dictate a chang	r three I a more oreplac ne Unit -1979 I with typ ge.	filtratio durabl use. T the the 2 by N testing 2 Cor e 717	e and longer ype CNN – 81 type 717 cha ICS Corp. at s.andard (30 ntrol Room E charcoal at a	valuation life charc 6 coconu rcoal pres a batch e 0°C & 95% mergency 98.9% ef	of the coal is sently fficient & R.H. Filtra ficienc	on si cy of ). Th tion cy, it v	te nis will		
	There were no automatic or manually ini	itiated safety syste	ms acti	uated	as a result of	the event					
11.	Cause of Event										
	The root cause of the event has been de Building and the Spent Fuel Pool region (D3803-1989) which was implemented readily apparent. Additionally, the type not have the durability of the new type of together resulted in accelerated failures	etermined to be the As a result of us in 1994, minor fla 717 charcoal that harcoal nor the life of the charcoal.	e use of ing a m ws that is in sto e expec	f solve ore rig did no ck is g tancy	nts and pain gorous testing at show up in greater than 5 of new charc	ts in the E standard the past is years old oal. Thes	are no d and d and se iterr	ure w does is			

FACULTY NAME (1)   DOCKET NUMBER (2)     Millstone Nuclear Power Station   05000336     Unit 2   94     TEXT (If more space is required, use additional copies of NRC Form 366A) (17)     III.   Analysis of Event     Based on event investigation, this event is reportable under the criteria or or condition that alone could have prevented the fulfillment of the safety that are needed to: (c) Control the release of radioactive material" and (c) an accident."     The Radiological Assessment branch performed an evaluation to determ Their analysis was based upon a major accident assuming a substantial subsequent release of appreciable quantities of fission products as idem that the off site dose would not have exceeded 10CFR100 limits.	N APPHOVED BY OMB NO. 3150-0104 EXPIRES: 5/31/95 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORM. COLLECTION REQUEST: 80.0 HRS. FORWARD COMMENTS REGAU BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGE BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMIS WASHINGTON, DC 20585-0001, AND TO THE PAPERWORK REDUC PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BU WASHINGTON, DC 20505.								
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The Control Boom Emergency Elitration chargeal officionay is assumed t	nine the effect I meltdown of ntified in 10CF	ts of this f the core FR100 an	condition. with d concluded						
Specifications are more conservatively set at 95% efficiency. The reporte the efficiency assumed by the Radiological assessment branch. Therefore would be negligible	to be 90%, ho ted efficiency ore, the affect	owever, ti of 91.549 t on the o	he Technical % is above operators						
IV. Corrective Action									
A new improved type charcoal, CNN-816 with 5% TEDA impregnation h EBFS and Facility 1 & 2 Control room Emergency Filtration system at Mi replaces the type 717 charcoal previously used. Procedural controls for Enclosure Building and Spent Fuel Pool region will be implemented prio	has been inst lillstone Unit 2 r the use of ch or to startup.	talled in t 2. This cf hemicals	he Facility 1 harcoal within the						
V. Additional Information									
Similar LERs: None									
EIIS Codes									
Enclosure Building Filtration BH-FLT									
Enclosure Building Adsorber BH-ADS									
Control Room Filtration VI-FLT									
Control Room Adsorber VI-ADS									