

NYN-90062

March 12, 1990

United States Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Document Control Desk

Reference: Facility Operating License NPF-67, Docket No. 50-443

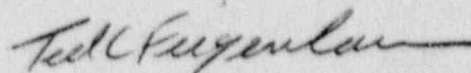
Subject: Licensee Event Report (LER) No. 90-007-00: Actuation of  
Control Room Emergency Air Cleanup and Filtration Subsystem due  
to Failed Radiation Monitor

Gentlemen:

Enclosed please find Licensee Event Report (LER) No. 90-007-00 for  
Seabrook Station. This submittal documents an event which occurred on  
February 8, 1990, and is being reported pursuant to 10CFR50.73(a)(2)(iv).

Should you require further information regarding this matter, please  
contact Mr. Richard R. Belanger at (603) 474-9521, extension 4048.

Very truly yours,



Ted C. Feigenbaum

Enclosures: NRC Forms 366, 366A

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cc: Mr. William T. Russell  
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United States Nuclear Regulatory Commission  
Region I  
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Mr. Victor Nerses, Project Manager  
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Records Center  
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Atlanta, GA 30339

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Seabrook Station										DOCKET NUMBER (2) 0 5 0 0 0 4 4 3 1 OF 0 3										PAGE (3) 1 OF 0 3																			
TITLE (4) Actuation of Control Room Emergency Air Cleanup and Filtration Subsystem due to Failed Radiation Monitor																																							
EVENT DATE (5) MONTH DAY YEAR 0 2 0 8 9 0 9 0									LER NUMBER (6) YEAR SEQUENTIAL NUMBER REVISION NUMBER 0 0 0 7 0 0 0 3									REPORT DATE (7) MONTH DAY YEAR 1 2 9 0									OTHER FACILITIES INVOLVED (8) FACILITY NAMES DOCKET NUMBER(S) 0 5 0 0 0 0												
OPERATING MODE (9) 4			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																																				
POWER LEVEL (10) 0 0 0			20.402(b)									20.405(e)									50.73(a)(2)(iv)									73.71(b)									
			20.405(a)(1)(i)									50.36(e)(1)									50.73(a)(2)(v)									73.71(c)									
			20.405(a)(1)(ii)									50.36(e)(2)									50.73(a)(2)(vi)									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 Richard R. Belanger, Lead Engineer - Compliance - Extension 4048																				TELEPHONE NUMBER AREA CODE 6 0 3 4 7 4 - 9 5 2 1																			
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												
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SUPPLEMENTAL REPORT EXPECTED (14)																																							
YES (If yes, complete EXPECTED SUBMISSION DATE)																				X NO										EXPECTED SUBMISSION DATE (15)									
																														MONTH DAY YEAR									

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

On February 8, 1990 while in MODE 4, a work request was initiated to investigate the cause of increasing counts on the Train B east air intake radiation monitor (RM-6506B). At 7:25 a.m., EST, as part of the investigation, a source check was attempted from the control room. This source check resulted in RM-6506B entering a high alarm condition and initiating the recirculation/filtration mode of the Control Room Emergency Air Cleanup and Filtration Subsystem (CBA) system. Upon opening the detector cover, it was noted that the check source appeared to be bound in the fully extended position. The check source was removed and the rod appeared to be bent. The rod was straightened and the return spring was tightened. The check source was then replaced and the detector retested satisfactorily and returned to service at 8:45 a.m. The apparent root cause of the detector failure is mechanical binding of the check source which resulted in the check source remaining in a position in front of the detector window. This caused the detector to go into a high alarm condition resulting in an Engineered Safety Features (ESF) actuation of the CBA system. There were no adverse safety consequences as a result of this event. All equipment other than the detector functioned as designed, fulfilling the ESF function.

Previous events involving ESF actuations resulting from failed radiation monitors were reported via Seabrook Station LERs 90-006-00, 90-005-00, 89-001-00 and 87-001-00.



## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Seabrook Station	DOCKET NUMBER (2)  0 5 0 0 0 5 4 4 3 9 0 — 0 0 7 — 0 0 0 2 OF 0 3	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

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

On February 8, 1990, a work request was initiated to investigate the cause of increasing counts on the Train B east air intake radiation monitor (RM-6506B). At 7:25 a.m., as part of the investigation, a source check was attempted from the control room. This source check resulted in RM-6506B entering a high alarm condition and initiating the Control Room Emergency Air Cleanup and Filtration Subsystem (CBA) [VI] and the subsequent transfer of the system to its recirculation/filtration mode.

CORRECTIVE ACTIONS

It appears the radiation monitor check source became mechanically bound, resulting in the source remaining in a position in front of the detector window, causing the detector to enter the high alarm condition. Upon opening the detector cover, it was noted that the check source rod appeared to be bound in the fully extended position. The check source was removed and the rod appeared to be bent. The rod was straightened and the return spring was tightened. The check source was then replaced and the detector retested satisfactorily and returned to service at 8:45 a.m.

To prevent recurrence of this event, a note will be incorporated into the surveillance procedures for these monitors to look for and remove any burrs on the check source rod, to adjust spring tension, if necessary, and to visually verify check source smoothness of operation. In addition, the routine performance monitoring and trend analysis activities that have been implemented will continue to track and evaluate future failures of a similar nature. Further corrective actions on this, and other radiation monitors may result from the investigation into the root cause currently in progress. Any such correction action would be submitted via a supplemental report to LER 90-006-00 which addressed a similar event. This supplement is expected to be submitted by April 1, 1990.

ROOT CAUSE

It appears the root cause of the detector failure is mechanical binding of the check source. The binding caused the check source to remain positioned in front of the detector window, causing the detector to go into a high alarm condition. This resulted in the initiation of the Control Room Emergency Air Cleanup and Filtration Subsystem to be transferred to its recirculation/filtration mode. Due to repetitive problems with CBA radiation monitors, a complete and thorough investigation into the root cause is currently underway and will be submitted via a supplemental report to LER 90-006-00 which addressed a similar event. This supplement is expected to be submitted by April 1, 1990.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

SAFETY CONSEQUENCES

There were no adverse safety consequences as a result of this event. All equipment other than the detector check source linkage functioned as designed, fulfilling the Engineered Safety Features (ESF) function. The failure of the monitor in this manner does not impair the ESF function of the Control Room Emergency Air Cleanup and Filtration Subsystem and automatically places the CBA system in the configuration required by Seabrook Station Technical Specification 3.3.3.1.

PREVIOUS OCCURRENCES

Previous occurrences of ESF actuations resulting from a radiation monitor check source binding were reported via Seabrook Station LER 90-006-00 and 90-005-00. Additionally, events involving ESF actuations resulting from failed radiation monitors were reported via Seabrook Station LERs 89-001-00 and 87-001-00; however these events did not result from check source binding. Four previous instances of check source binding have occurred at Seabrook Station. None of these previous occurrences of binding resulted in an ESF actuation.

At the time of this event, Seabrook Station was in MODE 4, Hot Shutdown, with Reactor Coolant System temperature at 329°F and pressure at 400psi.