

TENNESSEE VALLEY AUTHORITY

Browns Ferry Nuclear Plant
Post Office Box 2000
Decatur, Alabama 35609-2000

MAR 05 1990

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

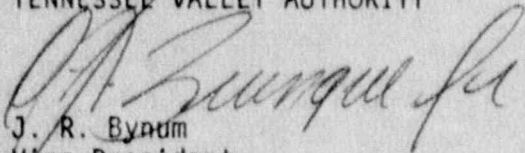
Dear Sir:

TVA - BROWNS FERRY NUCLEAR PLANT (BFN) UNIT 1 - DOCKET NO. 50-259 - FACILITY
OPERATING LICENSE DPR-33 - REPORTABLE OCCURRENCE REPORT BFR0-50-259/90003

The enclosed report provides details concerning the failure to maintain secondary containment requirements following the inoperability of a second standby gas treatment system train due to a damper closing by an unknown cause. This report is submitted in accordance with 10 CFR 50.73(a)(2)(i).

Very truly yours,

TENNESSEE VALLEY AUTHORITY



J. R. Byrum
Vice President
Nuclear Power Production

Enclosures

cc (Enclosures):

Regional Administration
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
101 Marietta Street, Suite 2900
Atlanta, Georgia 30323

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

NRC Resident Inspector, BFN

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)										DOCKET NUMBER (2)										PAGE (3)									
Browns Ferry Unit 1										050002591										OF 03									
TITLE (4) Failure to Maintain Secondary Containment Requirements Following Inoperability of Second Standby Gas Treatment System Train Due to Damper Closure by Unknown Cause																													
EVENT DAY (5)					LER NUMBER (6)					REPORT DATE (7)					OTHER FACILITIES INVOLVED (8)														
					SEQUENTIAL					REVISION					FACILITY NAMES										DOCKET NUMBER(S)				
MONTH DAY YEAR YEAR					NUMBER					NUMBER					MONTH DAY YEAR Browns Ferry Unit 2										05000260				
02019090					00300										Browns Ferry Unit 3										05000296				
OPERATING MODE (9)					THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:																								
					(Check one or more of the following)(11)																								
N					20.402(b)					20.405(c)					50.73(a)(2)(iv)					73.71(b)									
POWER					20.405(a)(1)(i)					50.36(c)(1)					50.73(a)(2)(v)					73.71(c)									
LEVEL					20.405(a)(1)(ii)					50.36(c)(2)					50.73(a)(2)(vii)					OTHER (Specify in									
(10) 0000					20.405(a)(1)(iii)					X 50.73(a)(2)(i)					50.73(a)(2)(viii)(A)					Abstract below and in									
					20.405(a)(1)(iv)					50.73(a)(2)(ii)					50.73(a)(2)(viii)(B)					Text, NRC Form 366A)									
					20.405(a)(1)(v)					50.73(a)(2)(iii)					50.73(a)(2)(x)														
LICENSEE CONTACT FOR THIS LER (12)																													
NAME															TELEPHONE NUMBER														
															AREA CODE														
Stewart A. Wetzel, Engineer, Compliance Licensing															205729-2048														
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																													
CAUSE					SYSTEM					COMPONENT					MANUFACTURER					REPORTABLE					REPORTABLE				
SUPPLEMENTAL REPORT EXPECTED (14)															EXPECTED														
															MONTH DAY YEAR														
YES (If yes, complete EXPECTED SUBMISSION DATE)															X NO														
															SUBMISSION DATE (15)														

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

On February 1, 1990 at approximately 2050, during performance of surveillance testing on standby gas treatment system (SGTS) train "B," the normally open fan inlet damper was discovered closed. This caused SGTS train "B" to be inoperable. SGTS train "C" was out of service at this time to perform maintenance. With two of three SGTS trains inoperable, secondary containment integrity cannot be maintained. This is a violation of Technical Specification 3.7.C.2.

The damper closed after a mechanical stop in its motor actuator became mispositioned when screws holding it in place loosened. The root cause of this event could not be identified. The loosening of the screws is believed to have occurred over time. No history of damper failure has been previously identified as a result of mechanical stop screws loosening.

As a result of this event, the damper motor actuator mechanical stop was repositioned and the screws tightened. Operation of the damper was verified and surveillance testing performed. SGTS train "B" was declared operable. Retaining screws that position the mechanical stop on all similar motor actuators in all three SGTS trains were checked for tightness and verified acceptably tight.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER						
Browns Ferry Unit 1	0500025990	0	0	3	0	0	0	2	OF	3

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

DESCRIPTION OF EVENT

On February 1, 1990 at approximately 2050, during performance of surveillance testing on standby gas treatment system (SGTS) train "B," the normally open fan inlet damper was discovered closed. This caused SGTS train "B" to be inoperable. SGTS train "C" was out of service at this time to perform maintenance. With two of three SGTS trains inoperable, secondary containment integrity can not be maintained. This is a violation of Technical Specification 3.7.C.2.

Under current conditions TS 3.7.C.2 requires secondary containment integrity. In order to have secondary containment integrity, the SGTS must maintain secondary containment at a negative pressure (0.25 inches water vacuum) relative to the building exterior. Previous analyses have demonstrated that two SGTS trains must operate to maintain the required negative pressure. Therefore, with only one SGTS train operable, secondary containment requirements could not be met.

As a result of this event, maintenance work was initiated to investigate and repair the damper. This effort, in addition to investigation by system engineers, determined that the damper closed after a mechanical stop in the damper's motor actuator became mispositioned when screws holding it in place loosened. Movement of this mechanical stop allowed a spring in the motor actuator to rotate backwards beyond the fully open position into the closed position. The purpose of the spring is to open the damper upon loss of power to the motor actuator.

Following discovery of the loose screws, the mechanical stop was repositioned and the screws tightened. Operation of the damper was verified and surveillance testing performed. SGTS train "B" was declared operable at approximately 0250 on February 3, 1990. The damper had previously been verified open during surveillance testing completed at 1945 on January 31, 1990.

At the time of this event all three units were defueled. No fuel handling or operations over spent fuel were in progress during this event. The loss of secondary containment is reportable in accordance with 10 CFR 50.73 (a)(2)(i).

ANALYSIS OF EVENT

The safety function of the secondary containment system is to limit the release of radioactivity to the environs after an accident so that resulting exposures are kept to a practical minimum and are within the values of 10 CFR 20 and 10 CFR 100 guidelines. When secondary containment is isolated, the SGTS provides the means for minimizing the release of radioactive material by filtering and exhausting the air from secondary containment and maintaining the building at a negative pressure. Two trains of the SGTS are required to be operating to maintain secondary containment at the required negative pressure.

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		YEAR		SEQUENTIAL NUMBER		REVISION NUMBER				
Browns Ferry Unit 1	0500025990	--	0	0	3	--	0	0	0	3 OF 0 3

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

A previous analysis of the worst case fuel handling accident based on one and one-half years decay of the spent fuel has demonstrated that the resulting offsite dose is substantially less than the FSAR limits even if the secondary containment or standby gas treatment systems were inoperable. At the time of this event, no operations involving spent fuel or over the spent fuel pool were in progress. Additionally, the spent fuel has decayed for more than four years. Therefore, this event has no safety significance.

CAUSE OF EVENT

The root cause of this event could not be identified. The loosening of the screws is believed to have occurred over time. No history of damper failure has been previously identified as a result of mechanical stop screws loosening.

PREVIOUS SIMILAR EVENTS

No previous similar events were identified.

CORRECTIVE ACTIONS

As a result of this event, the damper motor actuator mechanical stop was repositioned and the screws tightened. Operation of the damper was verified and surveillance testing performed. SGTS train "B" was declared operable. Retaining screws that position the mechanical stop on all similar motor actuators in all three SGTS trains were checked for tightness and verified acceptably tight.

COMMITMENTS

None

Energy Industry Information System (EIIS) codes are identified in the text as [XX].