

FACILITY NAME (1)

DOCKET NUMBER (2)

0 1 5 1 0 1 0 1 0 2 9 1 6

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1 OF 012

TITLE (4)

Internal Component Failures of Residual Heat Removal Motors

EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																								
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER		REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES					DOCKET NUMBER(S)																			
0	3	20	8	5	8	5	-	0	0	9	-	0	1	0	1	1	4	8	6						0	5	0	0	0					
															0	5	0	0	0															

OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)									
POWER LEVEL (10)	01010		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)			
			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)			
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vi)	X	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)(vii)(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)		Informational						

LISCENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER	
David L. Smith	AREA CODE	
	2 0 5	7 2 9 - 3 8 6 5

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC TURER	REPORTABLE TO NPRDS
B	B O M Q	G	O 8 O	Y

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)			
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ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single-space typewritten lines) (16)

On March 20, 1985, residual heat removal (RHR) pump motor 3D began to smoke shortly after it was started to allow maintenance personnel to investigate an unusual motor noise. The unit operator tripped the pump which stopped the smoking. The subsequent investigation found a failure of the lower radial guide bearing which had resulted in a failure of a stator winding.

An unrelated unit 1 RHR pump motor failure occurred previously on February 18, 1985. A broken butt weld on the lower surge ring allowed the stator coils to vibrate and ground to the motor casing, which tripped the motor. Both motors were replaced with unit 2 RHR pump motors and tested satisfactorily.

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PDR ADOCK 05000296
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/98

FACILITY NAME (1) Browns Ferry - Unit 3	DOCKET NUMBER (2) 0500029685-009-01102 OF 012	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

TEXT (If more space is required, use additional NRC Form 365A's) (17)

At 2215 on March 20, 1985, the licensed reactor operator initiated a fire alarm because of smoke on the first two levels of the unit 3 reactor building (NG) as indicated by smoke detection annunciators (ANN) alarming in the control room. The fire brigade responded and observed smoke coming from the 3D residual heat removal (RHR) (BO) motor (MO). This pump had been started at 2145 to allow maintenance personnel to perform troubleshooting on unusual motor noise noted earlier in the shift by the assistant shift engineer. The motor was shutdown at 2217, and the smoke stopped.

At the time of the 3D RHR pump motor failure, the unit was shut down. The motor was replaced using a unit 2 RHR pump motor. The failed motor was shipped to the power service shops for inspection and repair. Maintenance personnel determined that the lower radial guide bearing failed, causing a stator winding to short to ground through the motor casing. It appeared this bearing failure may have been caused by impact damage incurred during installation.

This pump had exhibited increased noise levels during the previous quarterly surveillance flow testing; however, the vibration readings were normal. The pump was placed on a trouble listing so that each time the pump was to be run a set vibration reading would be taken. The surveillance vibration program was indicating increased radial guide bearing wear, but a total bearing failure of this type was unexpected. In the future, any unusual noise will be noted and investigated to assess the potential for failure.

An unrelated failure had occurred earlier, February 18, 1985, on unit 1. The 1D RHR pump motor tripped while starting during the performance of Surveillance Instruction 4.5.B.1.b (RHR pump operability test). A broken butt weld was found in the lower surge ring that allowed the stator coils (CL) to vibrate and eventually cause the coil insulation to break down. When this happened, the stator coils grounded to the motor casing and caused the motor to trip.

When the 1D RHR pump was declared inoperable, the unit was operating at 97 percent power; and a seven-day limiting condition for operation (LCO) was declared per Technical Specification 3.5.B.3. The RHR pump motor was replaced and tested satisfactorily prior to exceeding the seven-day LCO. Although RHR motors have failed in the past, none have exhibited these type failures. These were General Electric, Model No. 5K6348XC23A, motors.

Responsible Plant Section - N/A

Previous Similar Events - None

TENNESSEE VALLEY AUTHORITY
Browns Ferry Nuclear Plant
P.O. Box 2000
Decatur, Alabama 35602

January 14, 1986

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

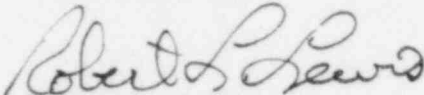
Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 3 - DOCKET
NO. 50-296 - FACILITY OPERATING LICENSE DPR-68 - REPORTABLE OCCURRENCE
REPORT BFRO-50-296/85009 R1

The enclosed report provides details concerning the internal component
failures of the residual heat removal motors. This report is submitted
for information only.

Very truly yours,

TENNESSEE VALLEY AUTHORITY


Robert L. Lewis
Plant Manager
Browns Ferry Nuclear Plant

Enclosures

cc (Enclosures):

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NRC Resident Inspector, Browns Ferry Nuclear Plant

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