

Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

John T. Herron
Vice President, Browns Ferry Nuclear Plant

May 19, 2000

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

10 CFR 50.73

Dear Sir:

**TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT (BFN) -
UNIT 3 - DOCKET 50-296 - FACILITY OPERATING LICENSE DPR - 68 -
LICENSEE EVENT REPORT (LER) 50-296/2000-03**

The enclosed report provides details concerning an event in which a diesel generator automatically started during the performance of testing.

This condition is reportable in accordance with 10 CFR 50.73 (a)(2)(iv) as an event or condition that resulted in a manual or automatic actuation of any Engineered Safety Feature. There are no commitments contained in this letter.

Sincerely,



John T. Herron

cc: See page 2

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Enclosure

cc (Enclosure):

Mr. William O Long, Senior Project Manager
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Rockville, Maryland 20852

Mr. Paul E. Fredrickson, Branch Chief
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NRC FORM 366 (6-1998)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 06/30/2001 Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.		
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)						
FACILITY NAME (1) Browns Ferry Nuclear Plant Unit 3				DOCKET NUMBER (2) 05000296		PAGE (3) 1 of 5
TITLE (4) Unplanned Diesel Generator Automatic Start						
EVENT DATE (5) MONTH DAY YEAR			LER NUMBER (6) YEAR SEQUENTIAL NUMBER REVISION NUMBER		REPORT DATE (7) MONTH DAY YEAR	
04 21 2000			2000 -- 03 -- 000		05 19 2000	
					OTHER FACILITIES INVOLVED (8) FACILITY NAME DOCKET NUMBER NA NA	
OPERATING MODE (9) 5			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)			
POWER LEVEL (10) 000			20.2201(b)		20.2203(a)(2)(v)	
			20.2203(a)(1)		20.2203(a)(3)(i)	
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)	
			20.2203(a)(2)(ii)		20.2203(a)(4) X	
			20.2203(a)(2)(iii)		50.36(c)(1)	
			20.2203(a)(2)(iv)		50.36(c)(2)	
					50.73(a)(2)(i) 50.73(a)(2)(viii) 50.73(a)(2)(ii) 50.73(a)(2)(x) 50.73(a)(2)(iii) 73.71 50.73(a)(2)(iv) OTHER 50.73(a)(2)(v) Specify in Abstract below or in NRC Form 366A 50.73(a)(2)(vii)	
LICENSEE CONTACT FOR THIS LER (12)						
NAME Gerald F. Moody, Licensing Project Manager				TELEPHONE NUMBER (Include Area Code) 256.729.7534		
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)						
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		REPORTABLE TO NPRDS
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 15 single-spaced typewritten lines) (16) On April 21, 2000 during testing of a switch for the 4KV shutdown board 3ED alternate feeder breaker from the 4KV bus tie board, the 3D diesel generator received an automatic start signal due to degraded voltage. At the time the start signal was received, the diesel generator and the 4 KV shutdown board were removed from service and inoperable for their Technical Specification functions. The automatic start was not preplanned, and the diesel generator started as a result of a valid initiation signal. The root cause of the event was a malfunction of a volt/ohm meter that was being used to check continuity on a compartment auxiliary switch associated with a breaker. There were no actual or potential safety consequences as a result of this event. This event did not adversely affect the safety of plant personnel or the public. This event is reportable per 10CFR 50.73 (a) (2) (iv) as any event or condition that resulted in a manual or automatic actuation of any engineered safety feature (ESF).						

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

I. PLANT CONDITION(S)

At the time of this event, Unit 3 was shutdown in Mode 5 for a planned refueling outage, Unit 2 was in Mode 1 at 100 percent power and Unit 1 was shutdown and defueled.

II. DESCRIPTION OF EVENT**A. Event:**

On April 21, 2000, work was in progress to test the switch for the 4KV shutdown board [EK] 3ED alternate feeder breaker from the 4KV bus tie board. The step of the work order (WO) being performed at the time of the incident required the electrician (utility, non-licensed) to verify no continuity existed between contacts on a compartment auxiliary switch associated with a breaker. With a volt/ohm meter connected to the switch contacts, the electrician attempted to verify no voltage was present by using different voltage scales of the volt/ohm meter. The electrician then moved the meter selector switch to the ohms position, after which the breaker tripped and the diesel started. Work was stopped and operations personnel secured the 3D diesel generator.

B. Inoperable Structures, Components, or Systems that Contributed to the Event:

None.

C. Dates and Approximate Times of Major Occurrences:

April 19, 2000, 0030 hours CDT	The 3D diesel was removed from service for scheduled testing activities.
April 21, 2000, 2208 hours CDT	The Unit 3 control room received alarm "4KV BD 3ED DEGRADED VOLTAGE". The 3D diesel generator started and tied to the 4KV 3ED board.
April 21, 2000, 2221 hours CDT	Unit 3 operations personnel secured the 3D diesel generator.
April 22, 2000, 0405 hours CDT	4KV shutdown board 3ED and diesel generator 3D were returned to operable status.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

This event was discovered when the alarm "4KV BD 3ED DEGRADED VOLTAGE" was received in the main control room.

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

F. Operator Actions

No operator actions contributed to this event.

G. Safety System Responses

The 3D emergency diesel generator responded as designed.

III. CAUSE OF THE EVENT**A. Immediate Cause**

Degraded voltage on 4KV shutdown board 3ED due to a trip open on the normal supply breaker.

B. Root Cause

The root cause of the automatic diesel start was a malfunction of the volt/ohm meter that was being used for this work activity.

C. Contributing Factors

None.

IV. ANALYSIS OF THE EVENT

On April 21, 2000, work was begun to test the switch for the 4KV shutdown board [EK] 3ED alternate feeder breaker from the 4KV bus tie board. Pre-test checks had been conducted on the volt/ohm meter to be used and the meter worked properly. The step of the work order (WO) being performed at the time of the incident required an electrician (utility, non-licensed) to verify no continuity existed between contacts on a compartment auxiliary switch associated with a breaker. With a volt/ohm meter connected to the switch contacts, the electrician attempted to verify no voltage was present by using different voltage scales of the volt/ohm meter. The electrician then moved the meter selector switch to the ohms position, after which the breaker tripped and the 3D diesel started. Work was stopped and operations personnel secured the diesel.

The electrician returned to the shop and tested the meter again using a known source. It was found that the voltage scales on the volt/ohm meter failed the checks it had previously passed. When the electrician was performing the test, it was assumed that the voltage scales of the meter were working properly. Therefore, no voltage was indicated when voltage did exist. When the meter was positioned on the ohms scale, a flow path was provided through the meter which tripped the breaker and resulted in the automatic diesel start.

Independent inspection of the volt/ohm meter after the event showed that all functions and ranges (with the exception of the x1 ohms scale) were not operable.

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

IV. ANALYSIS OF THE EVENT (continued):

Based on the above sequence of events, the root cause of the automatic diesel start was a malfunction of the volt/ohm meter that was being used for this work activity.

V. ASSESSMENT OF THE SAFETY CONSEQUENCES

There were no actual or potential safety consequences as a result of this event. At the time of the event, diesel generator 3D was considered inoperable for Technical Specification functions and was not required to be operable. The diesel generator functioned as it was designed. Operator actions were in accordance with plant procedures and no other problems resulted from this event. Therefore, this event did not adversely affect the safety of plant personnel or the public.

VI. CORRECTIVE ACTIONS**A. Immediate Corrective Actions**

The defective volt/ohm meter has been removed from use. ¹

B. Corrective Actions to Prevent Recurrence

This event will be discussed with all Electrical and Instrumentation/Control Maintenance personnel. ¹

All volt/ohm meters of this type in use at Browns Ferry will be inspected and tested. Meters that are found unacceptable will be discarded or repaired. ¹

VII. ADDITIONAL INFORMATION**A. Failed Components**

None.

B. Previous LERs on Similar Events

There have been no other ESF actuations at Browns Ferry as a result of failed test equipment within the past two years.

C. Additional Information

None.

D. Safety System Functional Failure:

This event did not result in a safety system functional failure in accordance with NEI 99-02, Revision 0.

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

VIII. COMMITMENTS

None.

¹TVA does not consider these corrective actions regulatory commitments. The completion of these items will be tracked in TVA's Corrective Action Program.