



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

Joseph R. Bynum
Vice President, Nuclear Operations

FEB 13 1991

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 BFRO-50-259/90018R1

The enclosed report provides details concerning the fire watch observations
which were performed late on nine required areas due to personnel error;
thereby exceeding technical specification requirements. This report is
submitted in accordance with 10 CFR 50.73(a)(2)(1)(B).

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. R. Bynum
Vice President
Nuclear Operations

Enclosure
cc: see page 2

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U.S. Nuclear Regulatory Commission

FEB 13 1991

cc (Enclosure):

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Suite 1500
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Atlanta, Georgia 30339

NRC Resident Inspector, BFN

Regional Administration
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
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Thierry M. Ross
U.S. Nuclear Regulatory Commission
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Browns Ferry Nuclear Plant Unit 1
DOCKET NUMBER (2) | PAGE (3)
0500 | 2 | 5 | 9 | 1 | OF | 0 | 4

TITLE (4) Nine Firewatch Observations Were Performed Late
Due to Personnel Error Thereby Exceeding Technical Specification Requirements

EVENT DAY (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)											
MONTH	DAY	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES			DOCKET NUMBER(S)									
1	2	1	1	9	0	9	0	0	1	8	0	1	0	2	1	3	9	1	Browns Ferry, Unit 2	050002160
1	2	1	1	9	0	9	0	0	1	8	0	1	0	2	1	3	9	1	Browns Ferry, Unit 3	050002196

OPERATING MODE (9) | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5:
(Check one or more of the following)(11)

OPERATING MODE (9)	<input checked="" type="checkbox"/> N	20.402(b)	<input type="checkbox"/>	20.405(c)	<input type="checkbox"/>	50.73(a)(2)(iv)	<input type="checkbox"/>	73.71(b)
POWER LEVEL (10)	<input type="checkbox"/>	20.405(a)(1)(i)	<input type="checkbox"/>	50.36(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	<input type="checkbox"/>	73.71(c)
	<input type="checkbox"/>	20.405(a)(1)(ii)	<input type="checkbox"/>	50.36(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	<input type="checkbox"/>	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	<input type="checkbox"/>	20.405(a)(1)(iii)	<input checked="" type="checkbox"/>	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	<input type="checkbox"/>	
	<input type="checkbox"/>	20.405(a)(1)(iv)	<input type="checkbox"/>	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)	<input type="checkbox"/>	
	<input type="checkbox"/>	20.405(a)(1)(v)	<input type="checkbox"/>	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(x)	<input type="checkbox"/>	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
James E. Wallace, Compliance Licensing Engineer	2 0 5 7 2 9 - 2 0 5 3

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/>	<input type="checkbox"/>				

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

On December 11, 1990 at 2148, the Security Micro Access Computer (MAC)-540 malfunctioned and automatically shutdown in the degrade mode. This resulted in requiring a security officer to be dispatched to lock vital area doors for ensuring unauthorized access did not occur. The locking of vital area doors detained a firewatch from entering battery board room number 1 Elevation 593 in the Control Bay Building. This contributed to a required technical specification (TS) hourly firewatch tour from being performed on time.

The root cause of this event was personnel error due to an inadequate job plan (i.e., inadequate time scheduled for firewatch tour contingencies). Contributing contingencies were: (1) time spent by the security officer to find the firewatch, (2) the security officer's and firewatch's communication was not proactive, (3) the attempts to contact the shift operating supervisor were unsuccessful, and (4) the current MAC-540 system is susceptible to electrical spikes and failures due to aging of the electronic components.

The immediate corrective actions were to reprogram the MAC-540 computer. The security officer searched and found the firewatch to allow the firewatch to continue the hourly firewatch tour. Additional corrective actions that have been taken to preclude recurrence are as follows: (1) Firewatches are now on a compressed schedule to ensure the performance of hourly firewatch tours required by TSs, (2) Firewatches have been retrained to ensure that they understand their immediate responsibilities of communications with security personnel due to computer failures, and (3) an uninterruptable power supply will be completely installed for the MAC-540 system by June 30, 1991.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		SEQUENTIAL	REVISION				
		YEAR	NUMBER	NUMBER			
Browns Ferry Plant Unit 1	0500025990	0	18	0	1	0	2 OF 4

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

Description of Event

At 2148 hours on December 11, 1990, the Security Micro Access Control Computer (MAC)-540 [IA] malfunctioned. The computer automatically shutdown as designed to a degrade mode. This resulted in requiring a security officer (utility) to be dispatched to lock vital area doors as required by security procedures in the Control Bay Building. The security officer toured the vital areas prior to securing them. These compensatory measures are required to ensure that vital area doors are not entered by unauthorized personnel while the computer is in the degrade mode. At 2151 hours personnel performing firewatch duties (utility laborer) attempted to access the door of battery board room number 1 which was locked by the security officer; therefore, the door would not physically open. The firewatch then made unsuccessful attempts to contact a licensed-utility shift operating supervisor (SOS) to notify the SOS of the potential to exceed a TS requirement. At this time the security officer noticed the firewatch. A brief discussion ensued; however, this communication activity was ineffective due to the firewatch attempting to notify the SOS of the condition. As this was occurring, a security shift supervisor arrived at the secondary alarm station, he deenergized the MAC-540 for thirty seconds, reenergized it, and the computer came on line. At 2201 hours, the security officer, who was dispatched to lock the doors, was notified that the computer was online and he could proceed to unlock the vital area doors. At 2202 hours, the security officer unlocked door 642, and at that time it was noted that the hourly firewatch tour TS requirement had been exceeded. Subsequent observations on eight other doors on the firewatch's tour revealed that the hourly firewatch tour requirement was also exceeded by less than 10 minutes.

During this event all three units were defueled, and no fuel handling or operations over the spent fuel was being performed. This event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B), operation prohibited by TSs.

Analysis of Event

A roving firewatch is required whenever a fire system is removed from service or when altering the design configuration of the fire protection system. An hourly firewatch tour is required by the BFN TSs. At the time of this event, there were six established fire watch tours; three were roving firewatches and three were fixed fire watches. These six fire watches were compensatory measures for outstanding fire protection deficiencies. These deficiencies are categorized as: (1) combustible items (e.g. scaffolds) above the temporary fire load requirements, (2) open penetrations or fire barriers (ventilation dampers or fire doors), (3) fire protection equipment inoperable (e.g. smoke detectors, sprinklers, CO₂ system, and high pressure fire pumps). Recent BFN fire protection upgrades should significantly minimize the number of fire watches during Unit 2 operations.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)								
		YEAR	NUMBER	NUMBER									
		SEQUENTIAL	REVISION										
Browns Ferry Plant, Unit 1	0150101021519190	--	0	1	8	--	0	1	0	3	OF	0	4

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

The delay of the hourly firewatch tour did not affect the operation of the plant due to the status of the plant at the time of this event. Additionally, this event would not have significantly affected BFN at power since there was a security officer available if access to any of the locked vital area doors was needed by operations personnel. The security officer who locked the vital area doors toured the locked areas for personnel prior to securing them. Even though the officer is firewatch trained, no credit is taken for any door he entered on his door-locking detail during this event. No fires were observed by him during this detail.

Cause of Event

The root cause of this event is personnel error due to inadequate job planning (i.e., inadequate time scheduled for firewatch tour contingencies, such as, spurious fire alarms, locked doors, or notifying the SOS, etc.). When the firewatch tour was developed, a time buffer was built in at the beginning of the tour to ensure the tour would be started on time. However, in this event additional firewatch contingencies occurred after the firewatch tour began. Therefore, the schedule was not adequate.

Contributing factors were: (1) time spent by the security officer to find the firewatch, (2) the security officer and the firewatch did not communicate in a proactive manner, (3) the attempts to contact the shift operating supervisor were unsuccessful, and (4) the current MAC-540 system is susceptible to electrical spikes and failures due to aging of the electronic components.

Corrective Actions

During the event, a security officer was dispatched to lock vital area doors. The security officer searched and eventually found the firewatch. The MAC-540 was returned to service and the vital area doors were unlocked. The firewatch continued his firewatch tour documenting areas where the one-hour TS requirement was exceeded. As a result of the event, firewatch schedules have been further compressed to ensure the performance of TS required hourly firewatches and to allow ample time for firewatch tour contingencies. Additionally, firewatches have been retrained to ensure that they understand their immediate responsibilities of communications with security personnel due to computer failures. TVA is adding an uninterruptible power supply to the MAC-540 system as an interim measure to reduce the probability of power interruptions to the security computers. This upgrade will be completed by June 30, 1991. The long-term resolution of the MAC-540 system's failure is the installation of a more sophisticated system to ensure reliability. This installation is currently being tracked as part of the permanent security upgrade system.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)						
		YF,R	NUMBER	NUMBER	NUMBER							
										SEQUENTIAL	REVISION	
Browns Ferry Plant, Unit 1	0500025990	--	0	1	8	--	0	1	0	4	0	4

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

Previous Similar Events

Previous similar reported events were reviewed. Upon completion of the review it was noted that on November 22, 1990 an event similar to this was reported in LER 259/90017 when the MAC-540 security system malfunctioned engaging in the lock-out feature and a security officer was not present to allow access to the firewatch. However, in the December 11, 1990 event, the lock-out feature was not engaged.

In both events there was one similarity in that a security officer was provided to allow the firewatch to perform his required duties; however, in both cases the firewatch tour did not provide ample time to ensure proper communications between firewatch and a security officer occurred, thereby detaining the hourly firewatch tour required by TSs.

Commitment

TVA is adding an uninterruptable power supply to the MAC-540 system as an interim measure. This upgrade will be completed by June 30, 1991.

Energy Industry Identification EIIIS codes are identified in the text as [XX].