NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
BROWNS FERRY UNIT 1	0 5 0 0 0 2 5 9	1 OF 0 5

TITLE (4) PROCEDURAL INADEQUACY CAUSES UNPLANNED INITIATION OF CONTROL ROOM EMERGENCY VENTILATION

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)
1 0	2 1	8 8	8 8	—	0 3 5	—	0 0	1 1	1 8	8 8	BROWNS FERRY UNIT 2	0 5 0 0 0 2 6 0
											BROWNS FERRY UNIT 3	0 5 0 0 0 2 9 6

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)	0 1 0 0	20.402(b)	20.405(c)	X 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)(vii)	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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Stephen B. Jones, Engineer, Plant Reporting Section	AREA CODE 2 0 5 — 7 2 9 - 3 7 8 8

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)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On October 21, 1988, an unplanned automatic start of train B of the control room emergency ventilation occurred while returning the system to standby readiness following performance of a surveillance instruction (SI). A separate SI was being performed on unit 3 reactor zone and refuel zone ventilation radiation monitors which had previously initiated the CREV unit as part of a preplanned sequence of events. The CREV unit was not stopped and returned to standby readiness following completion of ventilation radiation monitor SI to satisfy the CREV TS surveillance requirement. When the CREV operability SI was completed the unit was shutdown per the SI at the local control switch. When the local control switch was placed in the auto position, the CREV unit started since the CREV logic had not been reset following the initiation signal received from the performance of the unit 3 radiation monitor SI. The unit operator then used the control room handswitch to shutdown the CREV unit. This handswitch resets the CREV initiation logic. The CREV unit was then returned to standby readiness.

The SIs for CREV operability and reactor building and refuel floor ventilation radiation monitors will be revised to include steps to prevent concurrent running of SI's that effect CREV or its logic. The operating instruction for CREV will be revised to include a description on how to reset CREV initiation logic. The scheduling work control program is currently being upgraded. Under the upgraded program, activities will be evaluated for impact on plant systems and other ongoing work. This should prevent adverse effects from concurrent activities.

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

Description of Event

On October 21, 1988, at 2215 hours, an unplanned actuation of a control room emergency ventilation system occurred. This effected common ventilation on all three units which were shutdown and defueled.

On October 21, 1988, at 1010 while performing surveillance instruction (SI) 3-SI-4.2.A.10, "Reactor Building and Refuel Floor Ventilation Radiation Monitor Calibration and Functional Test", several engineered safety features (ESF) actuated or received actuation signals as part of the planned sequence of events. These effected systems are described below.

(1) Standby Gas Treatment (SBGT)(EIIS identifier BH) trains A, B, and C
(2) Control Room Emergency Ventilation (CREV)(EIIS identifier VI) trains A and B
(3) Unit 3 Primary Containment Isolation System (PCIS) group 6 isolation (EIIS identifier VB)
(4) Unit 3 reactor zone ventilation isolation (EIIS identifier VA)

SBGT train A and CREV train A were running prior to performance of this SI because of a PCIS group 6 isolation on Unit 2. The refuel zone ventilation was already isolated because of the unit 2 isolation signal. SBGT train C was tagged out of service.

At 1200 hours, on October 21, 1988, O-SI-4.7.E.6, "Control Room Emergency Ventilation System Operability Test", was initiated. This SI runs the CREV units for ten hours in order to meet technical specification 4.7.E.2.d. minimum operation time. The unit 1 operators are responsible for performing this SI.

The CREV SI normally starts both CREV units from the local handswitch located near each fan unit, O-HS-31-151 for CREV A and O-HS-31-152 for CREV B. By placing this handswitch into the "on" position, the automatic initiated signals and the seal in to the CREV fan motors are overridden. Since both CREV units were running prior to the initiation of O-SI-4.7.E.6, the local handswitch was not used.

At 1555 hours, on October 21, 1988, the unit 3 radiation monitor SI (3-SI-4.2.A.10) was completed. The SI requires operators to be notified that the effected systems could be returned to normal as required. Unit 3 reactor zone ventilation was returned to normal at 1605 hours. The refuel zone ventilation and SBGT train A were not returned to normal because of the previous unit 2 isolation signal. SBGT train B was returned to normal standby readiness at 2220 hours. Neither CREV unit was returned to standby readiness because of the ongoing performance of the CREV operability SI.

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Description of Event (continued)

At 2215 hours, on October 21, 1988, the ten hour run requirement of O-SI-4.7.E.6 was met. CREV A was not secured since the unit 2 isolation signal provided an automatic start signal to the CREV unit. The operator went to the local handswitch for CREV B, HS-31-152 as directed by procedure and placed it in the off position per the SI. This stopped the CREV B fan. The operator then placed HS-31-152 to the auto position as required by the procedure and CREV B started. The unit 1 operator noted the auto start of the CREV unit, verified there were no initiation signals, and secured the train by placing the handswitch on panel 9-25 in the unit 1 control room to stop. The control room handswitch, HS-31-150B, was then placed in the auto position. When this handswitch was placed in stop the CREV automatic seal-in was reset.

This event was an unplanned actuation of an engineered safety feature and is reportable under 10CFR 50.72 (a)(2)(ii).

Cause of Event

The performance of the unit 3 SI on the ventilation radiation monitors provided an initiation signal to the CREV unit. This signal energizes a latching relay which seals in a start signal to the CREV fan. The latching relay will remain in that position until reset even if the initiating signal is removed. To reset the latching relay, the control room handswitch must be placed in the off position. The unit 3 radiation monitor SI did not specify a method to reset the CREV automatic initiation logic. Normally, at the completion of this SI CREV is shutdown using the control room handswitch. This resets the latching relay and the start signal is removed. When the radiation monitor SI was completed, the performance of the CREV operability SI required the CREV unit to continue to run. Therefore, the operator did not use the control room handswitch to shut CREV off. When the local switch was placed in stop and then in auto after the CREV SI, CREV started since the latching relay had not been reset.

The root cause of this event was procedural inadequacy. Neither SI contained steps to prevent the concurrent running of SI's that effected CREV or its logic. Individual performance of both SIs in the past has not resulted in the auto start of CREV because the latching relay was reset. However, a proceduralized method of evaluating scheduled work for impact on plant systems and other ongoing work did not exist at the time of this event. This permitted the concurrent performance of the SIs.

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Corrective Action

The unit 1 operator immediately determined that a valid CREV initiation signal was not present and shutdown CREV B from the control room using O-HS-150B. This reset the latching relay and stopped CREV B and placed it in standby readiness.

The radiation monitoring SI for all three units and the CREV SI will be revised to incorporate steps specifying that concurrent performance of SI's that effect CREV or its logic is prohibited. The OI will be revised to contain information about the resetting of CREV seal-in logic with the control room handswitch.

The scheduling and work control program is being upgraded which will require an impact evaluation be performed for each scheduled activity. This will ensure that scheduled work is evaluated for its affects on plant systems and other ongoing work. This should prevent adverse effects from the performance of concurrent activities.

Analysis of Event

At the time of this event, all three units were defueled and no movement of fuel was occurring. In this operational configuration, there are no design basis events that can occur which would require the operation of CREV.

The unplanned start of CREV B placed the control room ventilation in a conservative configuration and would not have prevented CREV from fulfilling its design function. If this event had occurred during power operation, the results would have been similar, CREV would have performed as designed and would have been available to meet its design requirements.

Previous Similar Events - BFRO - 50-259/87028
BFRO - 50-259/88006
BFRO - 50-260/88014
BFRO - 50-296/85021

Commitments

Revise the ventilation radiation monitor calibration and functional test SI for each unit to include steps that specify that the performance of other SI's effecting CREV or its logic concurrently with this SI is prohibited. This will be done by January 30, 1989.

Revise O-SI-4.7.E.6 to include a step to reset CREV seal-in logic prior to placing local handswitch into automatic and a step that specifies that the performance of other SI's effecting CREV or its logic concurrently with this SI is prohibited by January 30, 1989.

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Commitments (continued)

Revise OI-31 to include a description of actions necessary to reset CREV seal-in logic by January 30, 1989.

Issue a scheduling and work control procedure by December 1, 1988.

TENNESSEE VALLEY AUTHORITY
Browns Ferry Nuclear Plant
Post Office Box 2000
Decatur, Alabama 35602

NOV 21 1988

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

Dear Sir:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 1 - DOCKET NO. 50-259 - FACILITY OPERATING LICENSE DPR-33 - REPORTABLE OCCURRENCE REPORT BFRO-50-259/88035

The enclosed report provides details concerning the procedural inadequacy resulting in an unplanned initiation of control room emergency ventilation. This report is submitted in accordance with 10 CFR 50.73 (a)(2)(iv).

Very truly yours,

TENNESSEE VALLEY AUTHORITY

Guy G. Campbell
Plant Manager
Browns Ferry Nuclear Plant

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