NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Catawba Nuclear Station, Unit 1	0 5 0 0 0 4 1 3	1 OF 0 3

TITLE (4)

Auxiliary Building Filtered Exhaust System Actuation Due to Personnel Error

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 4	1 1	8 6	8 6	0 1 9	0 0	0 5	0 9	8 6	N/A	0 5 0 0 0
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OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
1 0 0	20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	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)(viii)(A)	50.72(b)(2)(ii)
	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
	AREA CODE
Roger W. Ouellette, Associate Engineer, Licensing	7 1 0 4 3 1 7 3 - 1 7 5 3 1 0

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-space typewritten lines) (16)

On April 11, 1986, at 1117 hours, while performing the monthly transfer source calibration for the Control Room Air Intake Location A Radiation Monitor (EMF-43A), personnel inadvertently tripped the breaker supplying control power to EMF-43A and the Auxiliary Building Ventilation (VA) Radiation Monitor (EMF-41). The loss of power to EMF-41 initiated a Trip 2 actuation and placed the VA Filtered Exhaust Fans in the filter mode. The swapping of the VA Filtered Exhaust Fans from the bypass mode to the filter mode constitutes an Engineered Safeguard Feature actuation. The breaker was reset and the VA Filtered Exhaust Fans were returned to the bypass mode at 1202:30 hours. The unit was at 100% power at the time of this incident.

This incident is assigned Cause Code A, Personnel Error. A technician, while removing an output blocking jumper during the calibration of EMF-43A, inadvertently brought the jumper into contact with another terminal. This resulted in the tripping of the breaker supplying control power to EMF-43A and EMF-41.

This incident is reportable pursuant to 10 CFR 50.72, Section (b)(2)(ii) and 10 CFR 50.73, Section (a)(2)(iv).

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

BACKGROUND

The Auxiliary Building Filtered Exhaust System is the portion of the Auxiliary Building Ventilation (VA) System (EIIS:VF) that serves areas of the Auxiliary Building which are subject to potential contamination. During normal plant operation, the two filtered exhaust trains operate as two 50% capacity components. Each filter train is equipped with a bypass section, with this being the normal mode of operation. Upon indication of a high radiation level from the VA Radiation Monitor (EMF-41), the system will automatically swap to direct air flow through the filter trains. The swap from the bypass mode to the filter mode constitutes an Engineered Safeguard Feature Actuation.

All terminals and breakers associated with this incident are in Bays 1 and 2 of the unit one Process Radiation Monitor Cabinet located in the Control Room. They and their identification numbers are vendor supplied. Breaker 2CB4 supplies control power to EMF-41 and the Control Room Air Intake Location A Radiation Monitor (EMF-43A). The loss of control power to either EMF will result in a Trip 2 actuation for that EMF.

DESCRIPTION OF INCIDENT

On April 11, 1986, personnel started the monthly transfer source calibration for EMF-43A per procedure IP/0/B/3314/10, Single Range Beta Activity Monitor Transfer Calibration. After completion of the actual calibration, the personnel attempted to place EMF-43A back in service. At approximately 1117 hours, a technician removed the output blocking jumper from EMF-43A. Immediately, breaker 2CB4 tripped resulting in an EMF-41 Trip 2 actuation due to a loss of control power. At 1117:30 hours, the VA Filtered Exhaust Fans automatically swapped from the bypass mode to the filter mode. Breaker 2CB4 was reset at approximately 1125 hours. At 1202:30 hours, the VA Filtered Exhaust Fans were returned to the bypass mode.

CONCLUSIONS

This incident is assigned Cause Code A, Personnel Error. In accordance with IP/0/B/3314/10, a jumper was placed across terminals 1TB14-14 and 1TB14-15 to block the control actions of EMF-43A. An external test input was then used to perform the calibration. While attempting to place the EMF back in service, the technician removed the jumper from terminal 1TB14-14 and inadvertently brought the jumper into contact with terminal 1TB14-13. Terminal 1TB14-13 is a terminal located directly adjacent to terminal 1TB14-14. The resulting electrical short circuit tripped breaker 2CB4 causing an EMF-41 Trip 2 actuation. This actuation resulted in the swap of the VA Filtered Exhaust Fans from the bypass mode to the filter mode. Lighting was sufficient in the work area and was not a factor in this incident.

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

On July 12, 1985, an Operations and Maintenance Reminder was issued by INPO describing the use of jumpers with circuit switches to prevent the inadvertent actuation or grounding during installation and removal. The use of this type of jumper may have prevented the occurrence of this incident.

There has been no other incidents of this type investigated at Catawba.

CORRECTIVE ACTION

(1) Breaker 2CB4 was reset.

(2) The VA Filtered Exhaust Fans were returned back to the bypass mode.

(3) A memorandum to all appropriate personnel will be issued emphasizing the need to exercise extreme care when installing and removing jumpers.

(4) The feasibility of using jumpers with circuit switches for testing, calibrating, and other inplant use will be investigated.

SAFETY ANALYSIS

Upon receiving the EMF-41 Trip 2 signal, the VA Filtered Exhaust Fans automatically swapped to the filter mode as designed. In this alignment, all VA exhaust would have been routed through carbon filters prior to release out the unit vent. A detection of radiation in the unit vent by the unit vent radiation monitors would have secured all VA fans, except if a simultaneous Safety Injection (Ss) Signal had occurred. The Ss signal will ensure that the VA Filtered Exhaust Fans are in service and in the filter mode.

The health and safety of the public were not affected by this incident.

DUKE POWER COMPANY
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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

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May 9, 1986

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

Subject: Catawba Nuclear Station, Unit 1
Docket No. 50-413

Gentlemen:

Pursuant to 10 CFR 50.73 Section (a) (1) and (d), attached is Licensee Event Report 413/86-19 concerning an automatic swap of the Auxiliary Building Filtered Exhaust fans from the bypass mode to the filter mode due to a personnel error. This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

H. B. Tucker

Hal B. Tucker

RWO:slb

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
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Atlanta, Georgia 30323

American Nuclear Insurers
c/o Dottie Sherman, ANI Library
The Exchange, Suite 245
270 Farmington Avenue
Farmington, CT 06032

M&M Nuclear Consultants
1221 Avenue of the Americas
New York, New York 10020

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
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NRC Resident Inspector
Catawba Nuclear Station

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