

LICENSEE EVENT REPORT

50-285/76-17

CONTROL BLOCK

[PLEASE PRINT ALL REQUIRED INFORMATION]

LICENSEE NAME														LICENSE NUMBER														LICENSE TYPE										EVENT TYPE									
01	N	E	F	C	S	1	0	0	-	0	0	0	0	0	-	0	0	4	1	1	1	1	1	0	1																						
7	8	9	14	15	25	26	30	31	32																																						
01 CONT		CATEGORY		REPORT TYPE	REPORT SOURCE	DOCKET NUMBER				EVENT DATE				REPORT DATE																																	
01	CONT	57	58	59	60	0	5	0	-	0	2	8	5	0	5	0	6	7	6	0	5	1	8	7	6																						
7	8	57	58	59	60	61	68	69	74	75	80																																				

EVENT DESCRIPTION

02	At 1828 hours on May 6, 1976, during power operation with steam generator blowdown in																																																																															
03	progress, a no flow condition was discovered on steam generator blowdown radiation																																																																															
04	monitors RM-054A&B. Condenser off-gas radiation monitor RM-057 was operable and																																																																															
05	available to detect primary-to-secondary leakage. Background radioactivity levels																																																																															
06	from periodic steam generator samples have confirmed no primary-to- (continued)																																																																															

SYSTEM CODE		CAUSE CODE		COMPONENT CODE				PRIME COMPONENT SUPPLIER		COMPONENT MANUFACTURER				VIOLATION		
07	M	C	A	V	A	L	V	E	X	A	M	1	2	0	Y	
7	8	9	10	11	12	13	14	15	16	17	43	44	45	46	47	48

CAUSE DESCRIPTION

08	Valve HCV-2508 was found to be closed. Valve HCV-2508 was immediately reopened to																																																																															
09	restore steam generator blowdown sample flow to the blowdown radiation monitors.																																																																															
10	Valve HCV-2508 was last verified to be open at 1400 hours on May 6, 1976.																																																																															

FACILITY STATUS		% POWER		OTHER STATUS		METHOD OF DISCOVERY		DISCOVERY DESCRIPTION			
11	E	0	9	9	NA	A	During operator tour of watchstation				
7	8	9	10	11	12	13	44	45	46	80	
FORM OF ACTIVITY RELEASED		CONTENT OF RELEASE		AMOUNT OF ACTIVITY				LOCATION OF RELEASE			
12	Z	Z	NA					NA			
7	8	9	10	11	12	13	44	45	46	80	

PERSONNEL EXPOSURES

NUMBER		TYPE		DESCRIPTION	
13	0	0	0	Z	NA
7	8	9	11	12	13

PERSONNEL INJURIES

NUMBER		DESCRIPTION		
14	0	0	0	NA
7	8	9	11	12

OFFSITE CONSEQUENCES

15	NA																																																																															
7	8	9	80																																																																													

LOSS OR DAMAGE TO FACILITY

TYPE		DESCRIPTION	
16	Z	NA	
7	8	9	10

PUBLICITY

17	NA																																																																															
7	8	9	80																																																																													

8403230251 760506
PDR ADOCK 05000285
S PDR

ADDITIONAL FACTORS

18	Event Description (continued): secondary leakage in either steam generator.																																																																															
7	8	9	80																																																																													

19	(LER 50-285/76-17) See Attachments 1, 2 and 3 for additional information.																																																																															
7	8	9	80																																																																													

NAME: W. Dermeyer/R. Andrews

PHONE: 402-426-4011

Analysis of Occurrence/Safety Analysis

Steam generator blowdown monitors RM-054A&B serve as a means of detecting primary-to-secondary leakage. During this event both of these monitors were inoperable, however, RM-057 (Condenser Off-Gas Radiation Monitor) was operable and was available to detect primary-to-secondary leakage if it had occurred. Therefore, Technical Specification 2.1.4.(4) was met for determining leakage to the secondary system from the Reactor Coolant System. The inoperability of RM-054A&B with steam generator blowdown in progress would have prevented automatic closure of HCV-1387A&B (Steam Generator RC-2B blowdown containment isolation valves) and HCV-1388A&B (Steam Generator RC-2A blowdown containment isolation valves) due to high radiation level if primary-to-secondary leakage would have occurred. These same steam generator blowdown containment isolation valves however would close automatically in the unlikely event of gross primary-to-secondary leakage as a result of the actuation of the Engineered Safety Features System on Pressurizer Pressure Low Signal (PPLS). Technical Specification 2.9(1)d states that "Steam generator blowdown activity shall be continuously recorded and monitored by the steam generator blowdown sample monitoring system." This specification was not satisfied for part or all of the time period from 1400 to 1828 hours on May 6, 1976, because blowdown sample return valve HCV-2508 was closed.

The following chronology of events leading to this violation is submitted:

- On April 28, 1976, at 1115 hours, Surveillance Test ST-RM-2 (F.2) was performed. This monthly test verified that both steam generator blowdown radiation monitors RM-054A&B, when given a simulated alarm condition, would automatically terminate steam generator blowdown and would give an alarm at local panel AI-107 labelled "Sample Line Drain Valve HCV-2508 Open and HI Radiation".
- On Wednesday, May 5, 1976, RM-054A&B shielding rearrangement was accomplished. This work was accomplished under a Maintenance Order which required no outage and in fact no other consideration by Operations (i.e. the OTHER box was checked on the Maintenance Order). Lead bricks around the monitors were removed and then replaced after a shielding support table was moved into position. During removal of the lead shielding RM-054A&B alarmed (due to the increased background radiation) and automatically terminated steam generator blowdown. Steam generator blowdown was restored after shielding relocation work had been completed. This evolution should not have effected steam generator sample flow to radiation monitors RM-054A&B; however, an alarm at AI-107 labelled "Sample Line Drain Valve HCV-2508 Open and HI Radiation" should have occurred. This should have annunciated the remote control room alarm labelled "Primary Sampling System Malfunction".
- At 1400 hours on May 6, 1976, the Auxiliary Building operator verified visually that HCV-2508 was open.

Attachment No. 1 (continued)

Analysis of Occurrence/Safety Analysis (continued)

- At 1828 hours on May 6, 1976, the Auxiliary Building operator attempted to visually verify flow on FIA-2510 and 2511. This verification could not be made because the relocated monitor shielding blocked access. The operator removed shielding as required to permit access to the flow instruments. He then discovered that a no flow condition existed on both blowdown radiation monitors. The operator then immediately restored flow by opening HCV-2508. The operator then noticed that the "no flow" alarm for B steam generator (FIA-2511) would not clear even though proper sample flow was indicated. A Maintenance Order was written to correct this deficiency.
- On May 7, 1976, at 1125 hours, the NRC (Mr. R. Smith) was notified of this event by telephone pursuant to the prompt notification requirements of Technical Specification 5.9.
- On May 7, 1976, an I&C Technician investigating the cause for the failure of FIA-2511 to reset determined that the monitor shielding re-arrangement had left lead shielding too close to the coil of FIA-2511. This interfered with proper alarm operation. After re-arranging the shielding the alarm on FIA-2511 cleared.

The design of the steam generator blowdown sampling system is such that an immediate alarm is provided should sample flow through either blowdown radiation monitor be lost. FIA-2510 and FIA-2511 provide this alarm function for RM-054A&B, respectively. FIA-2510 gives an alarm on local panel AI-107 (visual only) labelled "Steam Generator A Blowdown Sample No Flow". A similar alarm arrangement is provided for FIA-2511. Any alarm on AI-107 annunciates a remote control room alarm (visual and audible) labelled "Primary Sampling System Malfunction". To clear the control room alarm the specific AI-107 alarm must be locally acknowledged by the Auxiliary Building operator.

In summary:

- the individual responsible for closing HCV-2508 could not be identified.

it is apparent that control room operators permitted an unacknowledged alarm condition on panel AI-107 to persist without requiring prompt action on the part of the Auxiliary Building operator. The control room operators perhaps reasoned that the alarm was due to the inability to reset FIA-2511 and not due to a separate valid alarm on AI-107. In this regard it should be noted that a ring back feature is provided for panel AI-107, i.e. if no alarms exist on AI-107 or if alarms which do exist on AI-107 have been acknowledged at AI-107, subsequent alarms on AI-107 will be annunciated in the control room. The exact time HCV-2508 was closed could have been determined if all alarms on AI-107 had been properly acknowledged. FIA-2510 would have given an alarm (even though FIA-2511 was malfunctioning) as soon as HCV-2508 was closed.

Analysis of Occurrence/Safety Analysis (continued)

- it is apparent that the monitor shielding re-location caused operational problems that were not properly anticipated. It is clear that designating the Maintenance Order work in the OTHER category was not proper for the work to be accomplished.

Corrective Action

1. Auxiliary Building operators are now required to tour the primary sampling room every two hours to visually verify sampling flow to the steam generator blowdown radiation monitors and to check the alarm status on panel AI-107.
2. The Operations Supervisor has cautioned the Operating Staff via Operations Memorandum of the importance of prompt response to alarmed conditions.

Failure Data

This is the third time steam generator blowdown has been in progress without radiation monitor sample flow, however, this is the first time such sample flow has been lost due to operator error. Previously loss of sample flow was due to plugging of the sample lines.

Omaha Public Power District

1623 HARNEY ■ OMAHA, NEBRASKA 68102 ■ TELEPHONE 536-4000 AREA CODE 402



May 18, 1976
FC-172-76



Mr. E. Morris Howard
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive
Suite 1000
Arlington, TX 76012

Dear Mr. Howard:

Reference: Fort Calhoun Station Unit No. 1
Docket No. 50-285

In accordance with the Fort Calhoun Station's Technical Specifications, the Omaha Public Power District, as holder of facility operating license DPR-40, submits three copies of the following licensee event report 50-285/76-17 to satisfy the requirements of Regulatory Guide 1.16.

Sincerely,

W. C. Jones
Section Manager
Operations

WCJ/WDD:rge

Enclosure

cc: Director, Office of Management
Information and Program Control
U. S. Nuclear Regulatory Commission
Washington, DC 20555 (3)

Director, Office of Inspection and
Enforcement
U. S. Nuclear Regulatory Commission
Washington, DC 20555 (30)

Mr. L. C. Shalla
SARC Chairman
PRC Chairman
Fort Calhoun File (2)

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