

LICENSEE EVENT REPORT

50-285/76-15

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	0	3															
7	8	9	14	15	25	26	30	31	32																														
CATEGORY										DOCKET NUMBER										EVENT DATE										REPORT DATE									
01	CONT	L	L	0	5	0	-	0	2	8	5	0	4	0	8	7	6	0	4	2	9	7	6																
7	8	9	57	58	59	60	61	68	69	74	75	80																											

EVENT DESCRIPTION

02	On April 8 and 20, 1976, during normal operation inadvertent noble gas releases to																																																																															
03	the auxiliary building occurred due to valve leak-by on the Chemical and Volume																																																																															
04	Control System. The releases made were within Technical Specification limits so no																																																																															
05	threat to the public health and safety occurred. The leakage was terminated by																																																																															
06	isolating the vent valve on ion exchanger CH-8A. (LER 50-285/76-15)																																																																															

SYSTEM CODE										CAUSE CODE										COMPONENT CODE										PRIME COMPONENT SUPPLIER										COMPONENT MANUFACTURER										VIOLATION									
07	C	G	E	V	A	L	V	E	X	A	C	6	6	5	N																																												
7	8	9	10	11	12	17	43	44	47	48																																																	

CAUSE DESCRIPTION

08	Leakage by standby ion exchanger CH-8A isolation valves (which were closed) and																																																																															
09	through an open ion exchanger vent valve caused gaseous release to the auxiliary																																																																															
10	building. CH-8A vent valve was closed to terminate release. (continued)																																																																															

FACILITY STATUS										% POWER										OTHER STATUS										METHOD OF DISCOVERY										DISCOVERY DESCRIPTION									
11	E	0	9	9	NA	A	NA																																										
7	8	9	10	12	13	44	45	46	80																																								
FORM OF ACTIVITY RELEASED										CONTENT OF RELEASE										AMOUNT OF ACTIVITY										LOCATION OF RELEASE																			
12	G	N	96.16	curies	Xe-133	Vent to atmosphere																																											
7	8	9	10	11	44	45	80																																										

PERSONNEL EXPOSURES

NUMBER										TYPE										DESCRIPTION									
13	0	0	0	Z	NA																								
7	8	9	11	12	13	80																							

PERSONNEL INJURIES

NUMBER										DESCRIPTION									
14	0	0	0	NA															
7	8	9	11	12	80														

OFFSITE CONSEQUENCES

15	Gas release was less than license limitations																																																																															
7	8	9	80																																																																													

LOSS OR DAMAGE TO FACILITY

TYPE										DESCRIPTION									
16	Z	NA																	
7	8	9	10	80															

PUBLICITY

17	NA																																																																															
7	8	9	80																																																																													

8403230258 760429
PDR ADCK 05000285
S PDR

ADDITIONAL FACTORS

18	Cause Description (continued): CH-8A isolation valves will be inspected at the																																																																															
19	earliest opportunity. See Attachments 1, 2, and 3.																																																																															

NAME: W. Dermeyer/R. Andrews

PHONE: 402-426-4011

Analysis of Occurrence/Safety Analysis

At 0020 hours on April 8, 1976, auxiliary building stack monitors RM-052 and RM-062 recorded an inadvertent release. No particulate or iodine activity was indicated, only noble gas. No area or process radiation monitors alarmed during the occurrence nor did the release result in Ventilation Isolation Actuation Signal (VIAS) actuation. The unit was at a steady state power level of 99%. A check of the auxiliary building for leakage was conducted; no leaks were found. A leak rate was conducted on the Reactor Coolant System (RCS); no abnormal leak rate was determined. Higher than normal readings on the stack radiation monitors continued for 78 minutes. An average noble gas release rate of 5656 uc/sec occurred. (Technical Specification 2.9 specifies a limit of 83,000 uc/sec.) No cause could be determined for the inadvertent release. The only operational activity conducted near the time of the event was diversion Chemical and Volume Control System (CVCS) letdown to the Waste Disposal System (WDS). This operation was performed in accordance with an approved procedure. Subsequent letdown diversion to the WDS was conducted without reoccurrence of a gaseous release. Total activity released was 26.47 curies Xe-133.

At 1920 hours on April 20, 1976, a makeup operation was conducted to raise level in the low pressure safety injection tanks. The fill evolution was being conducted in accordance with procedure OI-SI-1 Procedure C, however, through operator error valve HCV-2983 was not closed as required by the procedure. This error allowed borated water at refueling concentration to enter the Chemical and Volume Control System. After approximately three minutes, the operator (after realizing his error) closed HCV-2983. The operator also immediately terminated charging and letdown flow to preclude RCS boration which would have caused a power transient. Demineralized water was added to the VCT to reduce the VCT boron concentration. Additionally, VCT draining (via the local drain valve CH-207) was accomplished to reduce VCT level. Charging and letdown flow was re-established at approximately 1945 hours. CVCS letdown was diverted to the WDS periodically while demineralized water was added to the VCT to maintain reactor power. During this interval higher-than-normal radiation readings were observed on stack radiation monitors RM-052 and RM-062. No particulate or iodine activity was indicated, only noble gas. At 2332 hours on April 20, 1976, a gradual decrease in VCT level (with no VCT letdown diversion in progress) was observed. As this was indicative of a RCS leak, the provisions of Emergency Procedure EP-28 were implemented. A rough RCS leak rate of 2.5 gpm was calculated (this leak rate is within the Technical Specification limit of 10 gpm and is well within the capacity of one charging pump). The ventilation to various auxiliary building compartments was secured in an effort to locate the leak. When ventilation was secured to the ion exchanger valve room, a significant reduction in stack monitor readings occurred. The auxiliary building operator then discovered that there was flow indicated on local flow indicator FI-274 (this flow indicator is located in a drain header line into which the CVCS ion exchanger vent lines discharge). The auxiliary building operator isolated the leak by closing standby CVCS ion exchanger vent valve CH-8A (NOTE: Standby ion exchangers normally have inlet and outlet isolation valves closed with the vent isolation valve open). A subsequent RCS leak rate calculation indicated only 0.089 gpm. Stack radiation monitor readings immediately returned to normal. Total activity released was 69.69 curies Xe-133 at an average release rate of 1873.32 uc/sec. (Technical Specification 2.9 specifies a limit of 83,000 uc/sec.)

ATTACHMENT NO. 1 (continued)

It is postulated that pressure fluctuations in the letdown portion of the CVCS system may have caused the CVCS ion exchanger CH-8A isolation valve to leak by excessively resulting in gas release to the auxiliary building via CH-8A vent isolation line.

This event is reportable as a thirty-day written report since the radioactive gas releases were due to an abnormal degradation of a system other than the fuel cladding, reactor coolant pressure boundary, or primary containment.

ATTACHMENT NO. 2

Corrective Action

1. CH-8A isolation valves will be inspected at the earliest opportunity. Until such inspection is complete, the vent isolation valve for CH-8A will be tagged in the closed position.
2. Operators involved were cautioned concerning the importance of procedural compliance. This event was reviewed with operators at the monthly safety meeting on April 26, 1976.

ATTACHMENT NO. 3

Failure Data

This is the first event where a radioactive gas release has occurred as a result of valve leak by. The only other related event concerning inadvertent radioactive gas release to the auxiliary building was reported previously as Abnormal Occurrence 50-285/75-24 (Inadvertent Opening of Waste Gas Decay Tank Relief Valve).

Omaha Public Power District

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



April 29, 1976
FC-153-76



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 50-285/76-15 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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