

Omaha Public Power District

P.O. Box 399 Hwy. 75 - North of Ft. Calhoun Fort Calhoun, NE 68023-0399  
402/636-2000

July 1, 1992  
LIC-92-141L

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Reference: Docket No. 50-285

Gentlemen:

Subject: Licensee Event Report 92-020 for the Fort Calhoun Station

Please find attached Licensee Event Report 92-020 dated July 1, 1992. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B). If you should have any questions, please contact me.

Sincerely,

*W. G. Gates*

W. G. Gates  
Division Manager  
Nuclear Operations

WGG/lah

Attachment

c: J. L. Milhoan, NRC Regional Administrator, Region IV  
S. D. Bloom, NRC Acting Project Manager  
R. P. Mullikin, NRC Senior Resident Inspector  
INPO Records Center

000106

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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### Failure to Obtain Appropriate Grab Samples During Radiation Monitor Inoperability

OPERATING MODE (M)		3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8. (Check one or more of the following: (11))				
POWER LEVEL (10)	0	0	0	20.402(b)	20.405(c)	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)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 306A)
			X	20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(vii)(A)	
				20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(vii)(B)	
				20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(viii)	

LICENBEE CONTACT FOR T-88 LSR [125]					
NAME	TELEPHONE NUMBER				
Craig E. Booth, Shift Technical Advisor	<table border="1"> <tr> <td>AREA CODE</td> <td></td> </tr> <tr> <td>4   0   2</td> <td>5   3   3   -   6   8   7   4</td> </tr> </table>	AREA CODE		4   0   2	5   3   3   -   6   8   7   4
AREA CODE					
4   0   2	5   3   3   -   6   8   7   4				

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPHDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPHDS	

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)		<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	REVIEWED BY	CHECKED	FORWARDED
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**ABSTRACT** (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (18)

On June 1, 1992 at 0820, Auxiliary Building stack effluent radiation monitor RM-061 (particulate) was logged out of service in the Control Room Log so that a calibration could be performed. Performance of this calibration also renders an associated monitor, RM-062 (noble gas), inoperable. Technical Specification (TS) 2.9.1(2)e requires appropriate grab samples (gas and/or particulate) be taken once per eight hours when one or both of these monitors are inoperable. However, a valid particulate sample was not obtained until approximately 16 hours after entry into TS 2.9.1(2)e, and a valid gas sample was not collected for approximately 31 hours.

This event did not present a significant danger to the public. Monitor RM-060 (iodine) was operable, no releases from the gas decay tanks or containment atmosphere were in progress while RM-061/062 were inoperable, and no unexpected increases in Auxiliary Building activity were detected on area monitors.

The root cause of the event was determined to be procedural inadequacies with a contributing factor relating to communications.

Corrective actions will include procedure upgrades and training regarding radiation monitors and sampling.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  Fort Calhoun Station Unit No. 1	DOCKET NUMBER (2)  0500028592-020-0002 OF 05	LER NUMBER (3)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	PREVIOUS NUMBER		

TEXT (If more space is required, use additional NRC Form 368A's)(17)

At Fort Calhoun Station (FCS) three effluent radiation monitors normally monitor the Auxiliary Building stack. These monitors are RM-060, RM-061 and RM-062 which sample for iodine, particulate, and noble gases respectively. These monitors are located in room 69 of the Auxiliary Building.

The particulate and noble gas monitors share a common housing and sampling system. The sample is drawn from the stack and first directed through a moving paper filter which is monitored by RM-061 for particulate activity. The gas stream is then directed through the sample chamber of RM-062 where the noble gas activity is monitored. The gas stream is then drawn through the sample pump and returned to the stack.

Additional monitoring capability on the stack is available by RM-063, a post accident sampler/monitor. Two process radiation monitors which normally sample containment atmosphere, RM-050 (particulate) and RM-051 (noble gas), can alternately be aligned to sample the Auxiliary Building stack, if required. The construction of RM-050/051 is similar to that of RM-061/062.

Process monitors RM-050/051, RM-060 and RM-061/062 are also part of the Engineered Safeguards System. These five monitors provide the input to the Containment Radiation High Signal (CRHS) which in turn feeds the Ventilation Isolation Actuation Signal (VIAS). An alarm on any of these five monitors will meet the one out of five actuation logic and initiate a VIAS.

On June 1, 1992 at approximately 0800, FCS was in Mode 3 (Hot Shutdown), as a result of a forced outage. At this time, Instrument and Control (I&C) Technicians requested that RM-061 be released for calibration. The calibration was to be performed using Surveillance Test (ST) IC-ST-RM-0055. The performance of this ST required the detector to be removed from the monitor causing a breach in the sampling flow path.

The Shift Supervisor (SS) reviewed the applicable sections of the Technical Specifications (TS) to determine what restrictions would be placed on the plant with the radiation monitor rendered inoperable due to the ST. It was determined that the TS's allowed the monitor to be inoperable if 1) releases from a gas decay tank, containment pressure relief line, and containment purge line are secured, and 2) appropriate grab samples are taken and analyzed once per eight hours.

The SS signed out the ST to I&C so that work could be started. He also directed that the monitor be removed from service in accordance with procedure OI-RM-1 and that a Control Room Log entry be made identifying that RM-061 was inoperable. The entry was to note the applicable TS's and the Limiting Conditions for Operations (LCO) requirements. The SS released the equipment not knowing that at some point in IC-ST-RM-0055, the RM-061 detector would be removed from the system, leaving a hole in the piping, with no provision for system integrity. Performing this procedure also makes RM-062 inoperable due to the common sample pump for RM-061/062 being secured in accordance with OI-RM-1. RM-062 was not, however, declared inoperable at this time.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  Fort Calhoun Station Unit No. 1	DOCKET NUMBER (2)  0 5 0 0 0 2 8 5 9 2 --	LER NUMBER (3)			PAGE (4)		
		YEAR 0 2	SEQUENTIAL NUMBER 0 2 0 --	REVISION NUMBER 0 0	OF	0 3 OF 0 5	

TEXT (If more space is required, use additional NRC Form 369A a)(17)

The log entry was made at 0820, by a Licensed Operator (LO) who misunderstood the exact wording of the LCO as given by the SS. The resultant entry into the Control Room Log indicated that grab samples would be required every eight hours if a release was in progress, and also noted that no release was in progress at that time. (Note: The TS requirement for grab sampling applies whether or not a gas decay tank or containment atmosphere release is in progress.) Additionally, when the monitor was removed from service, the Shift Chemist (day shift) was apparently not notified that it was inoperable and that grab samples would be required.

The next opportunity for the Shift Chemist to have been notified was during the crew briefing at 1500 for the oncoming afternoon shift. The fact that RM-061 was inoperable was discussed but it is not clear whether the need for grab samples was mentioned. The majority of the briefing was devoted to current plant status, as the station was preparing to return to power operation following the forced shutdown.

The Shift Chemist (afternoon shift) who attended the crew briefing did not question the SS as to sampling requirements. He assumed that grab sampling would be required once per 24 hours due to recent sampling he had performed on another effluent monitor which required samples only every 24 hours. No attempt was made at that time to review the TS sampling requirements or to discuss the inoperable monitor with the Shift Chemist (day shift) who was staying over to assist with start-up chemistry.

At 2300, the crew briefing was held for the oncoming midnight shift. During this briefing no mention was made of the fact that RM-061 was inoperable. At 2300, however, the Shift Chemist (midnight shift) was called by an LO to see if he was aware that RM-061 was inoperable. The Shift Chemist informed the LO that he was not aware the monitor was inoperable, but indicated that TS's would require grab sampling once per eight hours.

At 2355, a gas sample was collected from RM-061/062 (this required Operations to start the sample pump) and a particulate sample was collected from RM-063. This was approximately 16 hours after RM-061 had been declared inoperable and RM-062 had been rendered inoperable due to the sample pump being secured. The samples were analyzed and documented in accordance with procedure. Due to the RM-061 detector having been removed for calibration (leaving a hole in the piping), the gas sample collected was not effectively drawn from the Auxiliary Building stack but rather from room 69 in which the monitor is located and was therefore not a valid sample. The particulate sample obtained from RM-063 was a valid sample.

The oncoming Shift Chemist (day shift) was properly informed of the need for eight hour grab samples. Samples were taken at 0732 on June 2, 1992, meeting the eight hour time interval, but again the gas sample was invalid due to the missing detector.



LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-590), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (4)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Fort Calhoun Station Unit No. 1	0500028592	02	020	00	04	OF 05

TEXT (If more space is required, use additional NRC Form 386A's)(17)

When preparing to collect the next set of samples the Shift Chemist (day shift) met the I&C Technician performing the calibration of RM-061. At this time the I&C Technician indicated that valid grab samples could not be obtained using RM-061/062 due to the removed detector. The inability to obtain a valid sample via RM-061/062 was then reported to Chemistry Supervision. Operations was informed and arrangements were made to obtain gas samples using RM-050/051. These monitors were swapped from their normal alignment (sampling containment atmosphere) to the Auxiliary Building stack in accordance with procedure OI-RM-1. With RM-050/051 aligned to the Auxiliary Building stack, the first valid gas samples off the stack were obtained at 1525 on June 2, 1992.

This event is reportable in that grab samples were not obtained within the eight hour time period specified in TS 2.9.1(2)e for RM-061/062. A valid particulate sample was not obtained until approximately 16 hours after entry into the LCO, and a valid gas sample was not collected for approximately 31 hours. This resulted in violation of TS 2.9.1(2)e. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B).

This event did not present a significant danger to the public. Throughout the event RM-060 was capable of providing a signal to actuate the VIAS relay if the stack gas activity had increased to the alarm setpoint. Additionally, during the time RM-061/062 were inoperable, no unexpected increases in the Auxiliary Building activity were detected on the area monitors. Also the grab samples that were obtained correctly (as well as the gas samples that were obtained incorrectly) did not show significant changes in activity levels. No releases from the gas decay tanks or containment atmosphere were in progress while the monitors were inoperable.

The root cause of this event has been determined to be inadequate controls in procedures IC-SI-RM-0055 and OI-RM-1. Both procedures lacked adequate precautions or prerequisites to ensure that grab sampling would be properly performed when the monitor(s) were removed from service.

A contributing cause in the event was a breakdown in communication. This failure involved several groups in that it occurred between I&C and Operations, Operations and Chemistry, within the Operating Crew and between the Shift Chemists.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 30.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  Fort Calhoun Station Unit No. 1	DOCKET NUMBER (2)  0 5 0 0 0 2 8 5 9 2 - 0 2 0 - 0 0 0 5 OF 0 5	LER NUMBER (3)			PAGE (4)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

TEXT (If more space is required, use additional NRC Form 308A's)(17)

The following corrective actions will be completed:

1. Procedure OI-RM-1 will be revised by August 1, 1992 to provide appropriate precautions/prerequisites to ensure valid grab sampling when radiation monitors are removed from operation.
2. Procedure IC-ST-RM-0055 and other TS 2.9.1 related I&C process radiation monitor calibration procedures will be evaluated and revised as necessary by November 30, 1992 to ensure they contain appropriate precautions/prerequisites for declaring radiation monitoring equipment inoperable.
3. A formal method will be developed by August 1, 1992 to communicate to Operations that OI-RM-1 required grab samples have been obtained.
4. A Training Hotline will be issued to Licensed Operators and Shift Chemistry personnel by July 15, 1992 regarding this event.
5. Training of Chemistry and Operations personnel with respect to this event regarding radiation monitors and backup sampling methods will be completed by November 1, 1992.

LER 91-030 documents a previous event in which a TS requirement was violated when Auxiliary Building stack radiation monitors were removed from service.