Omaha Public Power District
444 South 16th Street Mall
Omaha, Nebraska 68102-2247
402/636-2000

March 20, 1992
LIC-92-060L

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 92-007 for the Fort Calhoun Station

Please find attached Licensee Event Report 92-007 dated March 20, 1992. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(iv). If you should have any questions, please contact me.

Sincerely,

W. G. Gates

W. G. Gates
Division Manager
Nuclear Operations

WGG/lah

Attachment

c: R. D. Martin, NRC Regional Administrator
D. L. Wigginton, NRC Senior Project Manager
R. P. Mullikin, NRC Senior Resident Inspector
S. D. Bloom, NRC Project Engineer
INPO Records Center

IE22

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

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.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Fort Calhoun Station Unit No. 1	0 5 0 0 0 2 8 5	1 OF 0 3

TITLE (4)
Inadvertent Isolation of Radiation Monitors During Containment Purge

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 2	1 9	9 2	9 2	— 0 0 7	— 0 0	0 3	2 0	9 2	N	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): 5
POWER LEVEL (10): 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

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)	X 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
Craig E. Booth, Shift Technical Advisor	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 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 February 19, 1992 at 0125, an unplanned actuation of Engineered Safety Feature (ESF) components occurred when three ventilation isolation valves (HCV-746A, PCV-742E and PCV-742G) closed unexpectedly. The closure of these valves resulted in the isolation of containment atmosphere process radiation monitors for particulate and noble gas (RM-050/051). A containment purge was in progress and Technical Specification (TS) 2.9.1(2)g(v) requires these monitors to be operable and in service during a containment purge. This event was subsequently detected by a control room operator at 1840, and action was taken to return RM-050/051 to service.

An investigation into this event was not able to determine a definitive cause. However, the investigation concluded that it is probable that the event resulted from inadvertent actuation of two relays in panel AI-44 and the root cause of the event has been classified as poor ergonomics. The limited work area available within the control room instrument panels could have caused the craftsman to initiate an actuation when performing work inside the panels.

Corrective actions to address the event involve training on the event, providing direction on monitoring the alarm printer and investigating methods to promptly alert operators to similar events.

The Ventilation Isolation Actuation Signal (VIAS) is intended, in part, to prevent the release of significant radioiodine or radioactive gas from the containment to atmosphere. One possible source of such nuclides could be reactor coolant leaks below the range that would be detected by coolant or containment pressure instrumentation. The VIAS is initiated by any of the following signals: 1) Safety Injection Actuation Signal (SIAS), 2) Containment Spray Actuation Signal (CSAS) or 3) a Containment Atmosphere Radiation High Signal (CRHS).

The VIAS initiates the following actions:

1) closes containment pressure relief valves HCV-746A/B
2) closes containment purge valves PCV-742A/B/C/D
3) stops the containment purge fans
4) closes containment air sample valves PCV-742E/F/G/H for radiation monitors RM-050/051
5) opens inlet and outlet vents to the safety injection pump rooms and the spent regenerant tank room
6) places control room ventilation in the filtered air makeup mode
7) isolates the waste gas decay tanks.

On February 19, 1992 at 1840, while in Mode 5 for cycle 14 refueling, a control room operator was performing a routine visual check of control room indications. He observed that inboard isolation valves PCV-742E and PCV-742G to radiation monitors RM-050/051 were closed while RM-050/051 were running and a containment purge was in progress. This was immediately reported to the Licensed Senior Operator (LSO) who instructed the operator to open the isolation valves. A walkdown of control room boards was also performed to look for any other discrepancies.

The Shift Supervisor was informed of the event and a review of the control room alarm printer was performed to determine when the valves had closed. This investigation revealed that on February 19, 1992 at 0125:33, valve HCV-746A cycled open and seven seconds later, valves HCV-746A, PCV-742E and PCV-742G cycled closed. The operators also reviewed the process radiation monitor chart recorder to determine if any noticeable change in the stack monitor indications had occurred while RM-050/051 were isolated. No noticeable change in the stack activity level was identified based on data from Radiation Monitors RM-060/061/062 which were operable during the event.

This event was determined to constitute an actuation of Engineered Safety Feature (ESF) components and was reported to the NRC on February 19, 1992 at 1938, pursuant to 10 CFR 50.72(b)(2)(ii).

The unplanned isolation of process radiation monitors RM-050/051 is reportable for two reasons. The first is that while the monitors were isolated, and therefore inoperable, a containment purge was in progress. Technical Specification (TS) 2.9.1(2)g(v) requires these monitors to be operable and in service during a containment purge. This event constituted a violation of TS 2.9.1(2)g(v) and is reportable pursuant to 10 CFR 50.73(a)(2)(i)(B). The two valves which closed to isolate RM-050/051 (PCV-742E and PCV-742G) and the containment pressure reduction valve that cycled (HCV-746A) are operated by Containment Isolation Actuation Signal (CIAS) or VIAS relays. For this reason this event is also considered reportable pursuant to 10 CFR 50.73(a)(2)(iv) as an actuation of ESF components.

This incident did not present a significant hazard to the health or safety of the public. The three process radiation monitors on the ventilation stack (RM-060/061/062) were operable and in service with the capability to isolate the release if the setpoints were exceeded. Additionally a review of the stack activity as recorded by these process monitors indicated that no significant increase in activity occurred while RM-050/051 were isolated.

An investigation into this event was not able to determine a definitive cause. However, the investigation did conclude a probable cause of the event was an inadvertent actuation of two relays in panel AI-44. A relay which could have opened HCV-746A, and a VIAS relay which could have closed HCV-746A, PCV-742E and PCV-742G, are both present in panel AI-44. Instrument and Control (I&C) Technicians were working in the panel at the time of the event and Electricians had been working in the area. It is possible that these or other personnel in the area caused the inadvertent actuation. The root cause of the event has been classified as poor ergonomics. The limited work area available within the control room instrument panels could have caused the craftsman to initiate an actuation when performing work inside the panels. Due to the impracticality of changing the configuration of the panels, the corrective actions below address other means of minimizing the probability of recurrence of a similar event.

Continuing training on Standing Order M-100, 'Conduct of Maintenance', and on the need for extra precautions when working within control panels was completed for I&C Technicians and Electricians prior to the event. This training is routinely scheduled prior to the start of each refueling outage. Review of this training determined that conduct of maintenance on or near active components is adequately addressed.

The following corrective actions will be completed:

1. Procedural direction will be provided by May 30, 1992 on the operation/monitoring of the control room alarm printer and the alarm summary display on the Emergency Response Facility computer to address timely monitoring of these alarms. Interim guidance will be provided prior to completion of the current refueling outage.

2. Training will be provided by August 31, 1992 to Maintenance Planners to ensure that preplanning of jobs is performed in a manner to minimize the probability of inadvertent component actuations.

3. An Engineering Assistance Request (EAR 92-060) has been initiated to investigate the most appropriate way (e.g. an alarm) to alert the operators to inoperability of radiation monitors RM-050/051. Recommendations from this EAR will be incorporated, if appropriate, into modification MR-FC-84-155 (Radiation Monitor Upgrade) currently scheduled for implementation during 1992 and 1993.

LER's 89-004, 90-002, 90-008, 90-011, 91-002, 91-009, 91-021 and 91-024 document other recent events involving inadvertent VIAS or CIAS actuations.