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)
Fort Calhoun Station, Unit No. 1	0 5 0 0 0 2 8 5	1 OF 0 4

TITLE (4)
VIAS Actuations

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 5	0 2 8	4	8 4	0 0 5	0 0	0 6	0 1	8 4	N	0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9): 1

POWER LEVEL (10): 1 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)	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
Alan W. Richard, Supervisor-Technical Fort Calhoun Station	AREA CODE 4 0 2 — 4 2 6 - 4 0 1 1

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)

There have been 14 unplanned actuations of the Ventilation Isolation Actuation Signal between January 1, 1984, and May 2, 1984. These are outlined below by date and include radiation monitor causing actuation and reason for actuation.

1. 1/16/84; RM-061; Radioactive particulate increase from radon daughter products.
2. 1/26/84; RM-061; High radioactive particulate airborne in auxiliary building.
3. 2/16/84; RM-061; Radioactive particulate increase from radon daughter products (suspected).
4. 2/22/84; RM-061; Radioactive particulate increase from radon daughter products.
5. 2/23/84; RM-061; Radioactive particulate increase from radon daughter products.
6. 3/4/84; RM-060; Iodine accumulation was faster than normal on the RM-060 cartridge.
7. 3/5/84; RM-060; Iodine accumulation was faster than normal on the RM-060 cartridge.
8. 3/15/84; RM-060; Iodine accumulation was faster than normal on the RM-060 cartridge.
9. 4/6/84; RM-060; Iodine accumulation was faster than normal on the RM-060 cartridge.
10. 4/18/84; RM-050; Loose surface contamination on a piece of equipment caused high airborne activity in containment.
11. 4/18/84; RM-060; Spurious actuation.
12. 4/24/84; RM-051; Spurious electrical spike.
13. 4/24/84; RM-060; Inadvertent actuation while being calibrated.
14. 5/2/84; RM-060; Calibration test switch was released too soon after a calibration check.

The monitors that tripped spuriously were recalibrated. No apparent equipment malfunctions were identified. No other corrective action is planned.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Fort Calhoun Station, Unit No. 1	0 5 0 0 0 2 8 5	8 4	— 0 0 5	— 0 0	0 2 OF 0 4

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

There have been 14 unplanned actuations of the Ventilation Isolation Actuation System (VIAS) since the new LER rule went into effect on January 1, 1984, up to May 2, 1984. The District did not consider these actuations to be reportable based on our interpretation of NUREG 1022 and the presentation of the rule at the regional NRC LER workshop. Supplement No. 1 of NUREG-1022 revealed that all unplanned ESF actuations are to be reported. The District has been informed through subsequent discussions with the NRC on this matter that engineering judgement is not to be used even though NUREG 1022 states that "Actuations that need not be reported are those initiated for reasons other than to mitigate the consequences of an event (e.g., at the discretion of the licensee as part of a planned procedure or evolution)". NRC has interpreted NUREG-1022 such that the example is the only exception allowed, not just one example of an exception that may be taken or considered.

The type of event described in the USAR that VIAS was designed to mitigate is a release of significant radioiodine or radiogas from the containment to atmosphere from such sources as reactor coolant leaks. A VIAS is initiated by a Safety Injection Actuation Signal (SIAS) or a Containment Spray Actuation Signal (CSAS) or a Containment Radiation High Signal (CRHS). The CRHS feature employs five radiation monitors taking samples from the containment and/or ventilation stack. These monitors supply a 1-out-of-5 logic network to trip the VIAS lockout relays.

The five ventilation radiation monitors that actuate VIAS are also used for an isolation function similar to that performed by other process radiation monitor systems (e.g., waste evaporator condensate return line monitor and the waste liquid release to the overboard discharge header monitor) which are not reportable. The ventilation monitors are used as process monitors in order to satisfy the Technical Specification 2.9 objective of controlling the release of radioactive effluents to the environs to as low as practicable.

During normal operation, the Containment Air Particulate Monitor RM-050 alert and alarm setpoints are adjusted to give an indication of a significant increase in containment airborne activity. However, during refueling, the alarm setpoint is lowered considerably and set at the occupational MPC for unidentified isotopes. When the alarm is actuated, it indicates the necessity for use of respiratory protection measures for personnel inside containment. The Containment Gaseous Monitor RM-051 is operated in a similar fashion.

The Ventilation Stack Iodine Monitor RM-060 is a cumulative type monitor. The alarm setpoint is based on a net count rate accumulated over a specific length of time. However, if the specified count rate is reached during a longer period of time, the alarm will still actuate even though the nuclide release rate is substantially below Technical Specification limits.

The Ventilation Stack Particulate Monitor RM-061 responds to radioactive nuclides other than those required to be reported under 10CFR20. It responds to radioactive gases, iodines, short lived particulates and natural radioactivity such as radon daughter products. All of these can cause the monitor to go into alarm and actuate VIAS.

The VIAS performs the following functions:

1. Closes the containment purge valves.
2. Closes the containment relief valves.
3. Stops the containment purge fans.
4. Closes the containment air sampling valves.
5. Opens the inlet and outlet vents to the safety injection pump rooms and the spent regenerant tank room.
6. Starts both control room air conditioning units and places this system in a 100% recirculation mode.
7. Closes the waste gas header release valve to the stack.

The following is a brief history of the unplanned actuations that have occurred since the LER rule went into effect:

	Date	Time	Radiation Monitor Causing Actuation	Reason
1.	1/16/84	0233	RM-061	Radioactive particulate increase from radon daughter products due to an atmospheric temperature inversion.
2.	1/26/84	1245	RM-061	High radioactive particulate airborne in auxiliary building as a result of pumping water from the spent fuel pool to the safety injection refueling water tank.
3.	2/16/84	1144	RM-061	Same as for first event above (suspected).
4.	2/22/84	0408	RM-061	Same as for first event above.
5.	2/23/84	0107	RM-061	Same as for first event above.
6.	3/4/84	2250	RM-060	Iodine accumulation was faster than normal on the RM-060 cartridge as a result of a containment purge following plant shutdown for refueling.
7.	3/5/84	2324	RM-060	Same as for sixth event above.
8.	3/15/84	1950	RM-060	Same as for sixth event above.
9.	4/6/84	1706	RM-060	Same as for sixth event above.

	Date	Time	Radiation Monitor Causing Actuation	Reason
10.	4/18/84	1115	RM-050	The Upper Guide Structure Hold Down Ring which is normally inside the reactor was being prepared for installation back in the reactor. Loose particulate caused high airborne activity in containment.
11.	4/18/84	1610	RM-060	Spurious actuation.
12.	4/24/84	1343	RM-051	Spurious electrical spike.
13.	4/24/84	1853	RM-060	Inadvertent actuation while being calibrated.
14.	5/2/84	1901	RM-060	Calibration test switch was released too soon after a calibration check causing the monitor to go into alarm.

The first five events during the months of January and February occurred while the plant was at power operation. The remainder have occurred while the plant was being shutdown for refueling or was in a refueling shutdown condition.

None of the actuations of VIAS described above were initiated to mitigate the consequences of an event as described in the USAR. The VIAS actuations on January 26 and April 18 were the result of RM-050 and RM-061 being used as ventilation process monitors. The other actuations involving RM-061 were the result of a naturally occurring phenomenon. The RM-060 actuations were the result of the fact that the monitor does not have the capability to automatically monitor net count rates accumulated over a specific length of time as discussed above.

The monitors that tripped spuriously were recalibrated. No apparent equipment malfunctions were identified through this effort. No other corrective action is planned.

Omaha Public Power District
1623 Harney Omaha, Nebraska 68102
402/536-4000

June 1, 1984
FC-299-84
LIC-84-157

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

Reference: Docket No. 50-285

Gentlemen:

Licensee Event Report
for the Fort Calhoun Station

Please find attached Licensee Event Report 84-005 dated June 1, 1984. This report is being submitted per requirements of 10 CFR 50.73.

Sincerely,

R L Jaworski for

W. C. Jones
Division Manager
Production Operations

WCJ/DJM:jmm

Attachment

cc: Mr. Richard P. Denise, Director
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& Engineering Programs
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INPO Records Center
Mr. E. G. Tourigny, Project Manager

SARC Chairman
PRC Chairman
Mr. L. A. Yandell, Senior Resident
Inspector
Fort Calhoun File (2)

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