

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Fort Calhoun Station, Unit No. 1										DOCKET NUMBER (2) 0 5 0 0 0 2 8 5										PAGE (3) 1 OF 04	
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 N					DOCKET NUMBER(S) 0 5 0 0 0							
11	18	84	84	023	0	10	12	85						0 5 0 0 0							
OPERATING MODE (9) 3		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)																			
POWER LEVEL (10) 01010		20.402(b)		20.406(e)		X		60.73(a)(2)(iv)		73.71(b)											
		20.406(a)(1)(i)		60.38(e)(1)				60.73(a)(2)(v)		73.71(c)											
		20.406(a)(1)(ii)		60.38(e)(2)				60.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)											
		20.406(a)(1)(iii)		60.73(a)(2)(i)				60.73(a)(2)(viii)(A)													
		20.406(a)(1)(iv)		60.73(a)(2)(ii)				60.73(a)(2)(viii)(B)													
		20.406(a)(1)(v)		60.73(a)(2)(iii)				60.73(a)(2)(ix)													
LICENSEE CONTACT FOR THIS LER (12)																					
NAME Alan W. Richard, Supervisor-Technical Fort Calhoun Station, Unit No. 1										TELEPHONE NUMBER 41012 41261-1410111											
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																					
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS												
B	AB	PICV	C1635	Y																	
SUPPLEMENTAL REPORT EXPECTED (14)																					
YES (If yes, complete EXPECTED SUBMISSION DATE)										X NO											
EXPECTED SUBMISSION DATE (15)										MONTH DAY YEAR											

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

During the period between November 18, 1984 and November 24, 1984, there were five actuations of the Ventilation Isolation Actuation Signal (VIAS). The actuations occurred during a plant shutdown to repair a leak that had developed in a pressurizer spray valve. The date and time of each actuation along with the radiation monitor involved and the cause of the actuation are tabulated below.

	Date	Time	Radiation Monitor	Cause of Actuation
1.	11/18/84	2101	RM-060	Pipe joint leak in vent header through which VCT was being degassed.
2.	11/18/84	2145	RM-050	High containment activity due to spray valve leak.
3.	11/19/84	0118	RM-060	Pipe joint leak in vent header through which VCT was being degassed.
4.	11/19/84	0844	RM-060	Pipe joint leak in vent header through which VCT was being degassed.
5.	11/24/84	2000	RM-060	Iodine accumulation on RM-060 cartridge.

There were no operator errors or violations of procedures. The leak in vent header was located and repaired. The pressurizer spray valve was repaired. Radiation Monitor RM-060 was recalibrated.

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

During a plant shutdown from Mode 1, Power Operation, to Mode 4, Cold Shutdown, to repair a leak that had developed in pressurizer spray valve PCV-103-1, there were five actuations of the Ventilation Isolation Actuation Signal (VIAS). The date and time of each actuation along with the radiation monitor involved and the cause of the actuation are tabulated below:

	<u>Date</u>	<u>Time</u>	<u>Radiation Monitor</u>	<u>Cause of Actuation</u>
1.	11/18/84	2101	RM-060	Pipe joint leak in vent header through which VCT was being degassed.
2.	11/18/84	2145	RM-050	High containment activity due to spray valve leak.
3.	11/19/84	0118	RM-060	Pipe joint leak in vent header through which VCT was being degassed.
4.	11/19/84	0844	RM-060	Pipe joint leak in vent header through which VCT was being degassed.
5.	11/24/84	2000	RM-060	Iodine accumulation on RM-060 cartridge.

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 vent to the safety injection pump rooms and the spent regenerant tank room.
6. Places the Control Room air conditioning system in the filtered air makeup mode.
7. Closes the waste gas header release valve to the stack.

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 the 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). 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.

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TEXT (if more space is required, use additional NRC Form 365A's) (17)

Three of the actuations by the Ventilation Stack Iodine Monitor, RM-060, are attributed to a leak of gas to the Auxiliary Building through a joint in the vent header piping. The vent header was being used to degas the Volume Control Tank in the Chemical and Volume Control System. This degassing operation was being performed in order to reduce the hydrogen content of the reactor coolant to allow opening of the Reactor Coolant System for work on the pressurizer spray valve. The leak in the vent header was located and repaired. The calibration of RM-060 was also checked. It was found that the setpoint was at 340 cpm; the correct setpoint is 390 cpm. Therefore, the monitor was prematurely actuating VIAS.

The other actuation by RM-060 was a result of the design and operating characteristics of the monitor. The monitor senses an accumulation of iodine on a charcoal cartridge. 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. Also, this monitor is designed to selectively monitor iodine accumulation on the charcoal cartridge; however, the presence of certain noble gases can cause the monitor to give an erroneously high reading. The iodine cartridge was analyzed following this actuation and it was determined that no release limits were exceeded.

The actuation by Containment Particulate Radiation Monitor, RM-050, was a result of a buildup of radioactive particulate in the reactor containment building atmosphere caused by the leaking pressurizer spray valve. The valve was leaking at a flanged joint between the valve body and the valve bonnet extension. The leak did not adversely affect the control and operation of the valve. The leak was discovered during a routine containment entry. No releases were being made from the containment building at the time of the actuation. The Energy Industry Identification System component function identifier number is AB-PCV-C635. It is a Copes Vulcan, 3 inch, number L-146936, angle valve.

The only actuation of VIAS that occurred to mitigate the consequences of an accident as described in the USAR was the one by Radiation Monitor RM-050. At the time of the actuation, none of the containment purge valves, pressure relief valves, or air sampling valves were open; no releases were being made from the containment building. No Technical Specification radioactive release limits were exceeded during any of the events that led to the VIAS actuations.

During the subsequent plant shutdown, both pressurizer spray valves PCV-103-1 and PCV-103-2 were disassembled and rebuilt. A representative from Copes Vulcan was brought to the plant site to review the maintenance procedures used to repair the valve and to act in an advisory capacity for the repair work. He found no discrepancies in the procedures used. The gasket seating surfaces were machined to close tolerances and the torque was increased on the valve studs following the valve manufacturer's recommendation in an effort to prevent recurrence.

Work is in progress to replace the portion of the vent header in which the leak developed. The actual piping tie-ins to the existing system will be done as operation of the vent header allows.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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Fort Calhoun Station, Unit No. 1	0500028584	—	023	—	01	04	OF 04

TEXT (If more space is required, use additional NRC Form 388A's) (17)

Other VIAS actuations that have occurred since the new LER rule went into effect on January 1, 1984, were reported in LER 84-005, LER 84-006, LER 84-007, LER 84-010, LER 84-014, LER 84-017, LER 84-018 and LER 84-019.

OPPD

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

January 23, 1985
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FC-015-85

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

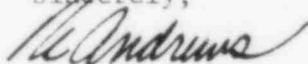
Reference: Docket No. 50-285

Gentlemen:

Licensee Event Report No. 84-023-01

Please find attached Licensee Event Report 84-023-01 dated January 23, 1985. This supplement is being submitted to correct a typographical error on the original LER and to clarify the intent of certain statements. The changes are denoted by vertical lines in the right hand margin.

Sincerely,



R. L. Andrews
Division Manager
Nuclear Production

RLA/JJF/dao

cc: Mr. Dorwin R. Hunter, Chief
Reactor Project Branch 2
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

INPO Records Center
Mr. E. G. Tourigny, NRC Project Manager

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

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