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)
Sequoyah, Unit 2	0 5 0 0 0 3 2 8	1 OF 0 3

TITLE (4)
Containment Ventilation Isolation

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 0 0
0 1	0 5	8 4	8 4	— 0 0 1	— 0 0	0 2	0 8	8 4		0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 9 9	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
Glenn E. Duggin, Compliance Section Engineer	AREA CODE 6 1 5 — 8 7 0 — 6 1 4 6

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	
B	NA*	- - R I	G 0 6 3	N							

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)

A high radiation alarm was actuated which caused a containment ventilation isolation (CVI) to occur. Investigation revealed that a voltage spike may have occurred as a result of changing a tritium trap which caused a switch actuation to emit electromagnetic interference (EMI). Also, a source check was not allowed to decay before the monitor was put back into normal mode. Radiation levels were not above normal during this time.

The high radiation alarm was determined to be spurious and the channel was blocked. The CVI was reset and the monitor was returned to service. Flow switches are being mounted on shock absorbing rubber mounts and Operations is checking flow every shift to prevent low flow alarm from actuating. Also, procedures are being revised to help prevent future spurious spikes.

NA* - Not available, IEEE Standard 805-1983 still being printed.

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

This LER involves five separate incidents. The first containment ventilation isolation (CVI) occurred at 1535C on 01/10/84 while unit 2 was in mode 1 (99% power, 2235 psig, 578 degrees F) and returned to service at 1600C. The second CVI occurred at 0241C on 01/15/84 while unit 2 was in mode 1 (100% power, 2238 psig, 579 degrees F) and returned to service at 0300C. The third CVI occurred at 0829C on 01/16/84 while unit 2 was in mode 1 (100% power, 2235 psig, 578 degrees F) and returned to service at 1630C. The opposite train radiation monitor was operable and lined up during this time. The fourth CVI occurred at 2335 on 01/17/84 while unit 2 was in mode 1 (100% power, 2238 psig, 579 degrees F) and returned to service at 2355C. The fifth CVI occurred at 1950C on 01/21/84 while unit 2 was in mode 1 (100% power, 2235 psig, 578 degrees F) and returned to service at 2000C. All associated equipment operated normally during the CVIs. The operator responded to the alarm (RM-90-112, -016, or -131) and determined that the alarm was in fact caused by a spurious spike and not by a high radiation level. Maintenance personnel were notifed to check the monitor. Operations personnel reset the alarm in the control room and had the monitor reset when no equipment or other failure was found. All equipment and personnel responded and performed as expected.

The fourth CVI was due to procedure inadequacy in that the procedure did not warn the operator to let the monitor decay to normal level after source checking and before returning it to normal. The other CVIs were spurious and probably caused by a switch actuation generating EMI or vibration.

The plant manager has identified the problem of spurious and inadvertent spikes on the radiation monitors as the plant's number one priority to resolve. A committee has been established involving several plant sections including Operations, Chemical Engineering, Instrument Maintenance, and Compliance as well as Engineering Design. Meetings have been held with these personnel to determine possible causes and corrective actions.

The exact cause of these spurious signals has not definitely been determined; however, several likely possibilities are being acted upon. Switch actuation can generate EMI and vibration. The vibration and EMI problems were concluded because low flow alarm actuation, changing filter paper, and filter paper drive jams have been associated with spikes on the radiation monitors enough to give a CVI. Some immediate corrective actions to prevent the spurious signals from occurring are mounting the switches on rubber mounts, hooking a recorder to the actuation channels to determine spurious signal origin, replacing stainless tubes to the switch with polyflow tubes, and revising procedures to verify sample flow requirements each shift. The prefilter paper is being changed out daily per a revised instruction to prevent the low flow alarm from actuating. Any filter will be changed if Operations finds a lower than normal flow indicated on a radiation monitor.

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Maintenance, Chemical Engineering, and Operations have been told, verbally and through procedures, to coordinate maintenance source checks, paper changing, and sample gathering so that the isolation signal can be blocked to prevent an unnecessary (not real) high radiation signal. The setpoints on monitors 106 and 112 have been raised from 20% to 40% of the technical specification limits to help prevent a spike from actuating the alarm. These immediate actions have been initiated and are now complete. Several long-term corrective actions have been identified and include the following: (1) NCO will determine if a flow switch, with sufficient deadband to reduce chattering at low flow, is available and will initiate paperwork to change them out; (2) Instrumentation will remove the isolation function from the ABI monitor and add a time delay to the actuation signal; (3) NCO will evaluate and specify a filter for the AC cables to the monitors; (4) Engineering Design will begin preliminary work on implementing a time delay of CVI and ABI and also changing the flow alarm circuit from AC to DC power; (5) NCO will evaluate the need to interlock CVI with purge air and vent dampers to inhibit CVI when dampers are closed.

There was no effect upon public health and safety and no plant safety margins were exceeded. Radiation levels were not above normal during this time.

Previous occurrences - one (SQRO-50-327/84001).

TENNESSEE VALLEY AUTHORITY
Sequoyah Nuclear Plant
Post Office Box 2000
Soddy Daisy, Tennessee 37379

February 8, 1984

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

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 - DOCKET NO. 50-328 - FACILITY OPERATING LICENSE DPR-79 - REPORTABLE OCCURRENCE REPORT SQRO-50-328/84001

The enclosed licensee event report provides details concerning the inadvertent containment ventilation isolation caused by spurious spikes on the radiation monitor. This event is reported in accordance with 10 CFR 50.73, paragraph a.2.iv.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

C. C. Mason
Power Plant Superintendent

Enclosure
cc (Enclosure):

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NRC Inspector, NUC PR, Sequoyah