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J. L. Wilson
Vice President, Sequoyah Nuclear Plant

November 6, 1992

U.S. Nuclear Regulatory Commission
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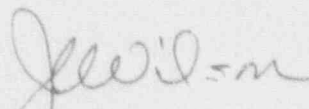
Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 - DOCKET
NO. 50-328 - FACILITY OPERATING LICENSE DPR-79 - LICENSEE EVENT REPORT
(LER) 50-328/92014

The enclosed LER provides details concerning an entry into Limiting
Condition for Operation 3.0.5 as a result of the A-train hydrogen
analyzer being inoperable concurrently with the emergency power source
for the B-train hydrogen analyzer being out of service.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B)
as an operation prohibited by technical specifications.

Sincerely,



J. L. Wilson

Enclosure
cc: See page 2

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U.S. Nuclear Regulatory Commission
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cc (Enclosure):

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Sequoyah Nuclear Plant, Unit 2 DOCKET NUMBER (2) 0151010131218110F015 PAGE (3) 5
TITLE (4) Limiting Condition For Operation 3.0.5 Entered Because of Hydrogen Analyzer Inoperability

EVENT DAY (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)											
			SEQUENTIAL	REVISION				FACILITY NAMES											
MONTH	DAY	YEAR	NUMBER	NUMBER	MONTH	DAY	YEAR	DOCKET NUMBER(S)											
1	0	0	7	9	2	9	2	0	1	4	0	0	1	1	0	6	9	2	0151010131218110F015
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following)(11)																	
1		20.402(b)																	
POWER LEVEL (10)		20.405(a)(1)(i) 20.405(c) 50.73(a)(2)(iv) 73.71(b)																	
1		20.405(a)(1)(ii) 50.36(c)(1) 50.73(a)(2)(v) 73.71(c)																	
0		20.405(a)(1)(iii) 50.36(c)(2) 50.73(a)(2)(vii) OTHER (Specify in																	
1		20.405(a)(1)(iv) 50.73(a)(2)(i) 50.73(a)(2)(viii)(A) Abstract below and in																	
0		20.405(a)(1)(v) 50.73(a)(2)(ii) 50.73(a)(2)(viii)(B) Text, NRC Form 366A)																	
		20.405(a)(1)(vi) 50.73(a)(2)(iii) 50.73(a)(2)(x)																	

LICENSEE CONTACT FOR THIS LER (12)

NAME C. H. Whittemore, Compliance Licensing TELEPHONE NUMBER 615843-7210
AREA CODE 615

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

REPORTABLE										REPORTABLE													
CAUSE	SYSTEM	COMPONENT			MANUFACTURER			TO NPRDS				CAUSE	SYSTEM	COMPONENT			MANUFACTURER			TO NPRDS			
X	I	K	-	-	R	V	C	3	3	9	NO												

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) X NO
EXPECTED SUBMISSION DATE (15)

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

On October 7, 1992, at 1313 Eastern daylight time (EDT), Limiting Conditions for Operation (LCOs) 3.6.4.1 and 3.0.5 were entered because the A-train hydrogen analyzer was inoperable, and the emergency power to the B-train hydrogen analyzer was out of service for routine maintenance. The A-train hydrogen analyzer was inoperable because of a leaking pressure-relief, pop-off valve on the reagent gas supply header. The pop-off valve had allowed the reagent gas bottles to slowly leak down such that insufficient gas was available for the hydrogen analyzer to perform its intended function. The bottles were replaced, and the source of the leak was identified. LCOs 3.6.4.1 and 3.0.5 were exited at 1603 EDT. The root cause of this event was the unexpected failure of the pop-off valve. A replacement pop-off valve has been ordered. In the interim, the reagent gas pressure is being monitored daily.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)			
		SEQUENTIAL		REVISION					
		YEAR	NUMBER	NUMBER					
Sequoyah Nuclear Plant, Unit 2	050003 28	92	014	00	0	0	0	20	5

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

I. PLANT CONDITIONS

Unit 2 was operating in Mode 1 at approximately 100 percent power.

II. DESCRIPTION OF EVENT

A. Event

On October 7, 1992, at 1313 Eastern daylight time (EDT), Limiting Conditions for Operation (LCOs) 3.6.4.1 and 3.0.5 were entered because the A-train hydrogen analyzer (EHS Code 1K) was inoperable, and the emergency power to the B-train hydrogen analyzer was out of service, i.e., inoperable, for routine maintenance. The A-train hydrogen analyzer was inoperable because of low gas pressure on the reagent gas supply. The gas bottles were replaced, and the LCOs were exited at 1603 EDT.

B. Inoperable Structures, Components, or Systems That Contributed to the Event

At the time the A-train hydrogen analyzer was declared inoperable, the 2B-B diesel generator (D/G), i.e., emergency power for the B-train analyzer, was unavailable for service because of routine scheduled maintenance.

C. Date and Approximate Time of Major Occurrences

1. October 7, 1992 at 0005 EDT The 2B-B D/G was removed from service for routine monthly maintenance.
2. October 7, 1992 at 1300 EDT The main control room (MCR) received an annunciator alarm indicating that the containment hydrogen analyzers were abnormal. An assistant unit operator (AUO) was immediately dispatched to investigate.
3. October 7, 1992 at 1313 EDT The 2A-A hydrogen analyzer was declared inoperable. LCO 3.6.4.1 was entered. With the 2B-B D/G also inoperable, LCO 3.0.5 was entered.
4. October 7, 1992 at 1603 EDT The reagent bottles were replaced, and Technical Specification (TS) LCOs 3.6.4.1 and 3.0.5 were exited. Corrective action was initiated to determine the source of the leak.

D. Other Systems or Secondary Functions Affected

None.

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		YEAR	NUMBER

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

E. Method of Discovery

A MCR annunciator indicated that the A-train hydrogen analyzer was abnormal. Investigation by Operations personnel revealed that the reagent gas bottles associated with the A-train hydrogen analyzer were less than the 25 pounds per square inch gauge (psig) alarm setpoint.

F. Operator Actions

When the annunciation was received, MCR personnel immediately dispatched an AUO, in accordance with the annunciator response procedure, to investigate the problem. The AUO reported that the low gas pressure alarm light was illuminated; the unit senior reactor operator (SRO) immediately went to the gas bottle bank associated with this analyzer to determine whether the reagent gas or the calibration gas was low. When the SRO determined that the reagent gas was low, he notified the unit reactor operators to declare the monitor inoperable and notified Instrumentation personnel to replace the bottles.

At 1313 EDT, LCO 3.6.4.1 was entered because of the inoperable analyzer. LCO 3.0.5 was also entered because the opposite train emergency power, i.e., 2B-B D/G, for the B-train analyzers was out of service for routine maintenance.

Instrument Maintenance and Technical Support personnel took immediate action to replace the reagent bottles and to determine the reason for the low gas pressure.

Instrument Maintenance and Technical Support personnel reported that a slow leak in the pressure-relief, pop-off valve caused the depletion of the reagent gas supply. Operations and Technical Support personnel monitored the system for approximately 45 minutes and determined that the analyzer could be declared operable with frequent verification of gas pressure until the leak could be repaired. LCOs 3.6.4.1 and 3.0.5 were exited at 1603 EDT on October 7, 1992.

III. CAUSE OF EVENT

A. Immediate Cause

The immediate cause of the event was low reagent gas pressure for the A-train hydrogen analyzer.

B. Root Cause

The root cause of this event was the unexpected failure of the pressure-relief, pop-off valve on the A-train reagent gas supply line.

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

C. Contributing Factors

None.

IV. ANALYSIS OF EVENT

The control of combustible gas in containment was never in jeopardy when the A-train hydrogen analyzer was inoperable, and the emergency power source for the B-train analyzer was not available because the normal power supply to the analyzers was always available.

In the event of an accident, emergency instructions provide for the analysis of containment gases by performing chemistry grab samples in addition to reviewing the product of the hydrogen analyzers. This provides a check that the analyzers are functioning properly. The hydrogen igniters are energized prior to energizing the hydrogen analyzers. Therefore, their operation is unaffected by the inoperability of the hydrogen analyzers. Following analysis of containment gas, the hydrogen recombiner will be placed into service.

The SQN safety analysis for combustible gas control inside containment documents that, with one recombiner in service, the containment hydrogen concentration will not reach the lower flammability limit of 4 percent hydrogen within the first 24 hours. Therefore, when the hydrogen analyzers are inoperable, the combustible gas control process functions will still be performed.

This event did not pose a threat to plant personnel, equipment, or to the general public.

V. CORRECTIVE ACTION

A. Immediate Corrective Action

Immediate corrective action was taken by the Operations section by declaring the hydrogen analyzers inoperable and entering the appropriate LCOs, i.e., LCO 3.6.4.1 and LCO 3.0.5. Immediate corrective action was taken by the Instrument Maintenance section by replacing the reagent bottles and then investigating the source of the problem.

Operations issued an Operations Standing Order to monitor the Units 1 and 2 reagent gas tanks on a daily basis and request that the tanks be replaced when either tank pressure is less than or equal to 1,600 psig.

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TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)										PAGE (3)				
Sequoyah Nuclear Plant, Unit 2				SEQUENTIAL		REVISION										
				YEAR		NUMBER		NUMBER								
	050003 12 18 9 2	—	0	1	4	—	0	0	0	5	Of	0	5			

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

B. Actions Taken to Prevent Recurrence

This event has been determined to be an isolated case. Actions to prevent recurrence are not required based on the following:

1. The hydrogen analyzer system has been very reliable based on a review of the maintenance history.
2. The likelihood of similar component failures, given the established reliability of the system, is very low.
3. The potential safety consequences and implications of having both trains of hydrogen analyzers inoperable for a unit are not significant because the safety function performed by the analyzers will still be accomplished by chemistry grab sampling.

VI. ADDITIONAL INFORMATION

A. Failed Component

1. Pressure-relief, pop-off valve (3/8-inch size)
Manufacturer: Circle Seal
Model: Manufacturing Model No. D559T1-3M-56

B. Previous Similar Events

A review of the Nuclear Experience Review and LER database was conducted to identify any previous or similar events; none were found.

C. Enhancements to Hydrogen Analyzer Surveillance

The hydrogen analyzers are functionally tested or calibrated on a monthly basis. However, neither the calibration activity nor the testing routine requires personnel to specifically check or record the reagent gas pressure and compare it to any acceptance criteria. In the future, Operations and surveillance testing personnel will be required to periodically observe and record the reagent gas pressure during the calibration and testing activities.

VII. COMMITMENTS

None.