

June 18, 2003

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

10 CFR 50.73

Gentlemen:

**TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 -  
DOCKET NO. 50-328 - FACILITY OPERATING LICENSE DPR-79 -  
LICENSEE EVENT REPORT (LER) 50-328/2003-006-00**

The enclosed report provides details concerning a failure to meet technical specification limiting condition for operation action time for the component cooling system. This event is being reported, in accordance with 10 CFR 50.73(a)(2)(i)(B), as an operation or condition which was prohibited by technical specifications.

This letter is being sent in accordance with NRC RIS 2001-05.

Sincerely,

***Original signed by:***

Pedro Salas  
Licensing and Industry Affairs Manager

Enclosure

cc (Enclosure):

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Institute of Nuclear Power Operations  
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<b>NRC FORM 366</b> (7-2001)		<b>U.S. NUCLEAR REGULATORY COMMISSION</b>			<b>APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004</b> Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.						
<b>LICENSEE EVENT REPORT (LER)</b> (See reverse for required number of digits/characters for each block)											
<b>1. FACILITY NAME</b> Sequoyah Nuclear Plant (SQN) UNIT 2				<b>2. DOCKET NUMBER</b> 05000328			<b>3. PAGE</b> 1 OF 6				
<b>4. TITLE</b> Failure to Meet Technical Specification Limiting Condition for Operation Action Time for the Component Cooling System.											
<b>5. EVENT DATE</b>			<b>6. LER NUMBER</b>			<b>7. REPORT DATE</b>			<b>8. OTHER FACILITIES INVOLVED</b>		
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
04	24	2003	2003	- 006	- 00	06	18	2003	FACILITY NAME	DOCKET NUMBER	
									05000	05000	
<b>9. OPERATING MODE</b>		1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check all that apply)								
<b>10. POWER LEVEL</b>		100	20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)		
			20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)		
			20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)		73.71(a)(4)		
			20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)		
			20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER Specify in Abstract below or in NRC Form 366A		
			20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)				
			20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)				
			20.2203(a)(2)(v)		<b>X</b>	50.73(a)(2)(i)(B)		50.73(a)(2)(vii)			
			20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)				
			20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)				
<b>12. LICENSEE CONTACT FOR THIS LER</b>											
NAME J. Bajraszewski							TELEPHONE NUMBER (Include Area Code) (423) 843-7749				
<b>13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT</b>											
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX		
<b>14. SUPPLEMENTAL REPORT EXPECTED</b>							<b>15. EXPECTED SUBMISSION DATE</b>		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)				<b>X</b>	NO						
<b>16. ABSTRACT</b> (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)											
<p>On April 24, 2003, at 1815 Eastern daylight time (EDT), it was determined that a failure to meet a technical specification (TS) limiting condition for operation (LCO) action time existed for the component cooling system (CCS). On April 21, 2003, at 0045 EDT, the common spare (C-S) CCS pump, that was supplying the B-train loads, was removed from service for maintenance and the 1B-B CCS pump was aligned to supply the B-train loads. At the time of discovery, Unit 2 had exceeded the TS LCO action time specified in LCO 3.7.3 of 72 hours. Upon identification of the condition, the TS LCO was entered, C-S pump maintenance activities were expedited, and a risk evaluation was performed of the condition. The risk evaluation indicated that the existing alignment was of least risk significance while the C-S pump was out of service. A review of the past three years of operator logs was performed, and no other occurrence of exceeding the action time of LCO 3.7.3 was identified. However, the review may be inconclusive because similar pump alignments existed without entry into the TS LCO being documented. The root cause of the event was that operators did not fully understand the TS applicability relative to the CCS equipment alignment. A required reading letter was issued to licensed operators to make them aware of this event and the requirements for entering the LCO. The appropriate operating procedure has been revised to indicate when entry into the LCO is applicable.</p>											

**LICENSEE EVENT REPORT (LER)**

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
Sequoyah Nuclear Plant (SQN) Unit 2	05000328	YEAR	SEQUENTIAL NUMBER	REVISION	2 OF 6
		2003 --	006 --	00	

**NARRATIVE** (If more space is required, use additional copies of NRC Form 366A) (17)

I. PLANT CONDITION(S)

Unit 2 was in power operation at approximately 100 percent power.

II. DESCRIPTION OF EVENT

A. Event:

On April 24, 2003, at 1815 Eastern daylight time (EDT), it was determined that a failure to meet a technical specification (TS) limiting condition for operation (LCO) action time existed for the component cooling system (CCS) [EIS Code CC]. On April 21, 2003, at 0045 EDT, the common spare (C-S) CCS pump that was supplying the B-train loads was removed from service for maintenance and the 1B-B CCS pump was aligned to supply the B-train loads for both units. At the time of discovery, Unit 2 had exceeded the TS LCO action time of 72 hours specified in LCO 3.7.3.

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

None.

C. Dates and Approximate Times of Major Occurrences:

April 21, 2003, at 0045 EDT	The 1B-B CCS pump was aligned to the B train and placed in service and the C-S CCS pump was stopped to support maintenance activities on the C-S CCS pump.
April 24, 2003, at 1815 EDT	Operators determined that the 1B-B CCS pump does not auto start from a Unit 2 safety injection (SI) signal, raising the concern of TS compliance. Operations personnel entered TS LCO 3.7.3.
April 26, 2003, at 1804 EDT	The C-S CCS pump was returned to operable status after satisfactory completion of testing. Operations personnel exited TS LCO 3.7.3.

D. Other Systems or Secondary Functions Affected:

None.

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**NARRATIVE** (If more space is required, use additional copies of NRC Form 366A) (17)

E. Method of Discovery:

Operations personnel identified the condition during shift turnover with the off-going crew. The on-coming crew questioned the CCS pump alignment.

F. Operator Actions:

The appropriate TS LCO was entered, plant management was notified, and a risk evaluation was performed. The risk evaluation indicated that the existing alignment was of least risk significance while the C-S pump was out of service.

G. Safety System Responses:

No safety system responses were required.

III. CAUSE OF THE EVENT

A. Immediate Cause:

The immediate cause of the event was the failure to appropriately enter the TS LCO action statement, resulting in the TS LCO action time being exceeded.

B. Root Cause:

The root cause of the event was that operators did not fully understand the TS applicability relative to CCS equipment alignment. The CCS system unique design enables flow path alignment to both units; however, pump start signals are provided from only one unit (except the C-S pump) resulting in the inability to meet the surveillance requirements of LCO 3.7.3. A review of the past three years of operator logs was performed, and no other occurrence of exceeding the action time of LCO 3.7.3 was identified. However, the review may be inconclusive because similar pump alignments existed without entry into the TS LCO condition being documented.

Contributing to the condition was the system operating procedure did not provide guidance relative to alignment of the opposite Unit's B-train pump and required LCO entry.

C. Contributing Factor:

None

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NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

**IV. ANALYSIS OF THE EVENT**

The operability of the CCS ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions.

The CCS is the intermediate, closed-loop cooling water system, between various components handling reactor coolant system fluids and the essential raw cooling water (ERCW) system. The ERCW system is the cooling water supplied from and discharged to the ultimate heat sink (Tennessee River). Two basic purposes of the CCS are: 1) to remove heat from the components and heat exchangers that are handling radioactive fluids, and 2) to serve as a buffer against leakage from the nuclear systems to the ERCW and thus to the environment.

The CCS is a two-train cooling system consisting of five CCS pumps (pump designations are 1A-A, 1B-B, 2A-A, 2B-B, and C-S); four thermal barrier booster pumps; three pairs of plate heat exchangers; two surge tanks; CCS pump seal water collection unit; and associated valves, piping, and instrumentation serving both units. Separate A train equipment is provided for each unit, whereas B train is shared by both units. As such, under normal power operation conditions, each unit will require the use of one CCS pump (such as 1A-A or 1B-B for Unit 1) and the heat exchangers in Train A. The CCS C-S pump is normally aligned to support the B trains of both units.

The CCS pumps automatically transfer to auxiliary onsite power upon loss of offsite power. Each CCS pump is tested to start automatically on a SI signal. The Unit 1 pumps receive an SI signal from Unit 1, the Unit 2 pumps receive an SI signal from Unit 2, and the C-S pump receives both Unit 1 and 2 SI signals.

In the event described in this LER, the initial CCS pump alignment was: the C-S pump was supplying both units' B-train loads; the 2A-A pump was supplying Unit 2 A-train loads; the 2B-B pump was in stand-by and aligned to supply Unit 2 A-train loads; and Unit 1 was in a no Mode condition. This alignment was changed so that the 1B-B supplied both units' B-train loads during maintenance of the C-S pump. In the changed configuration with a loss of offsite power event, the 1B-B CCS pump would receive auxiliary onsite power and continued to operate to supply the B-train loads. In the unlikely event of a Unit 2 SI start signal, the 1B-B pump was already running and supplying the required B train loads. Additionally, the 2B-B CCS pump was in standby and capable of supporting Unit 2 A train loads. Therefore, the change in pump alignment had no impact to plant operation either in normal or off-normal conditions.

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**NARRATIVE** (If more space is required, use additional copies of NRC Form 366A) (17)

V. ASSESSMENT OF SAFETY CONSEQUENCES

Based on the above "Analysis of the Event," this event did not adversely affect the health and safety of plant personnel or the general public.

VI. CORRECTIVE ACTIONS

A. Immediate Corrective Actions:

A required reading letter was issued to licensed operators to make them aware of this event and the requirements for entry into the LCO action.

B. Corrective Actions to Prevent Recurrence:

The appropriate operating procedure has been revised to indicate when entry into the LCO is applicable. Training will be updated and provided, as appropriate, based on the procedure revision.

VII. ADDITIONAL INFORMATION

A. Failed Components:

None.

B. Previous LERs on Similar Events:

A review of previous reportable events for the past three years identified two previous events (LERs 50-327/2002-002 and 50-328/2003-004) where the TS LCO action was not performed. In the first event, the TS LCO action was not performed because of improperly focused supervisor duties during restoration of offsite power and the returning of the emergency diesel generators to normal alignment. In the second event, the TS LCO action was not performed because the on-coming Chemistry Shift Supervisor did not verify his initial assumptions of having up to six hours for to obtain a sample. The actions from these events addressed the specific human performance errors of the individuals involved and, as such, would not have precluded the event described in this LER where a lack of full understanding of the TS LCO applicability to the various CCS pump alignments existed.

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**NARRATIVE** (If more space is required, use additional copies of NRC Form 366A) (17)

C. Additional Information:

None.

D. Safety System Functional Failure:

This event did not result in a safety system functional failure in accordance with 10 CFR 50.73(a)(2)(v).

VIII. COMMITMENTS

None.