December 19, 2008

U.S. Nuclear Regulatory Commission 10 CFR 50.73
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT (SQN) UNIT 2 - DOCKET NO. 50-328 - FACILITY OPERATING LICENSE DPR-79 - LICENSEE EVENT REPORT (LER) 50-328/2008-002-00

The enclosed LER provides details concerning a manual actuation of the reactor protection system because of indications of a control rod dropping into the reactor core while withdrawing shutdown banks in preparations for entry into Mode 2. This report is being submitted in accordance with 10 CFR 50.73 (a) (2) (iv) (A), as an event that resulted in a valid actuation of the reactor protection system.

Sincerely,

Original signed by

Timothy P. Cleary
Site Vice President

Enclosure
cc: See page 2

Enclosure
cc (Enclosure):

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NRC FORM 366 (9-2007) **U.S. NUCLEAR REGULATORY COMMISSION**

APPROVED BY OMB NO. 3150-0104 EXPIRES 08/31/2010

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 an 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.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
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4. TITLE: Indications of a Dropped Control Rod During Startup

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	9	2008	2008	- 002 -	00	12	19	2008	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE: 3

10. POWER LEVEL: 0

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER *(Include Area Code)*
Norm Thomas, Licensing Engineer	423-843-7749

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	AA	CBL	L205	Y					

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO				

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On November 9, 2008, at 1821 Eastern standard time with Unit 2 in Mode 3, the Unit 2 reactor trip breakers were opened from the main control room (MCR) because of indications of Shutdown Bank "A" Rod E-11 dropping into the reactor core. At the time the reactor trip breakers were opened, the MCR operators were in the process of withdrawing shutdown banks in preparations for entry into Mode 2. Rod E-11 rod position indication (RPI) dropped to zero and the rod bottom light was lit. The MCR operators entered the appropriate abnormal operating procedure and opened the reactor trip breakers based on indications that were available. All other shutdown banks and control banks were inserted at the time the reactor trip breakers were opened. All safety-related equipment operated as designed. Subsequent to the manual reactor trip, investigation revealed that the plant computer trace for Rod E-11 showed that the failure was in the RPI system and was not a dropped rod. Further investigation showed that the problem was a broken wire on the E-11 RPI coil stack on top of the reactor head. The unit was cooled down to Mode 5 to repair the broken RPI coil stack wire for Rod E-11. The corrective action to prevent recurrence will be a modification to the reactor head to provide a new RPI coil stack top plate, connector, and cable to the vertical panel.

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

I. PLANT CONDITION(S)

Unit 2 was in Mode 3.

II. DESCRIPTION OF EVENT

A. Event:

On November 9, 2008, at 1821 Eastern standard time (EST) with Unit 2 in Mode 3, the Unit 2 reactor trip breakers were opened from the main control room (MCR) because of indications of Shutdown Bank “A” Rod E-11 (EIIS code AA) dropping into the reactor core. At the time the reactor trip breakers were opened, the MCR operators were in the process of withdrawing shutdown banks in preparations for entry into Mode 2. Rod E-11 rod position indication dropped to zero and the rod bottom light was lit. The MCR operators entered the appropriate abnormal operating procedure and opened the reactor trip breakers based on indications that were available. All other shutdown banks and control banks were inserted at the time the reactor trip breakers were opened. All safety-related equipment operated as designed. Subsequent to the manual reactor trip, investigation revealed that the plant computer trace for Rod E-11 showed that the failure was in the rod position indication (RPI) system and was not a dropped rod. Further investigation showed that the problem was a broken wire on the E-11 coil stack on top of the reactor head. This report is being submitted in accordance with 10 CFR 50.73 (a) (2) (iv) (A), as an event that resulted in a valid actuation of the reactor protection system.

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

None.

C. Dates and Approximate Times of Major Occurrences:

November 9, 2008 at 1804 EST	Shutdown Bank “A” control rods were pulled to 222 steps in preparation for going to Mode 2.
November 9, 2008 at 1809 EST	RPI on Rod E-11 rapidly decreased to zero.
November 9, 2008 at 1821 EST	Manual actuation of the reactor protection system was initiated because of indications of a dropped rod (E-11) when withdrawing Shutdown Bank "A."

D. Other Systems or Secondary Functions Affected:

No other systems or secondary functions were affected by this event.

E. Method of Discovery:

Operators noticed RPI E-11 dropping to zero when withdrawing Shutdown Bank "A" in preparations for entry into Mode 2.

F. Operator Actions:

Manual actuation of the reactor protection system was initiated because of indications of a dropped rod (E-11) when withdrawing Shutdown Bank "A." Control room personnel maintained the unit stable in hot standby, Mode 3.

G. Safety System Responses:

The plant responded to the reactor trip as designed.

III. CAUSE OF THE EVENT

A. Immediate Cause:

The cause was a broken RPI secondary coil stack wire.

B. Root Cause:

The most probable cause is that the coil stack wire was flexed and weakened during normal refueling outage activities on top of the reactor head. Then the vibration from the control rod being withdrawn could have caused the wire to fail.

C. Contributing Factor:

The RPI coil stack wire insulation has degraded over time because of heat.

IV. ANALYSIS OF THE EVENT

The plant systems responded to the reactor trip as designed. All of the rods were fully inserted as required. The unit was cooled down to Mode 5 to repair the broken rod position indication coil stack wire for Rod E-11.

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:

The broken coil stack wire was repaired.

B. Corrective Actions to Prevent Recurrence:

The RPI reactor head cable replacement modification (currently scheduled for the next refueling outage) will provide a new coil stack top plate, connector, and new cable to the vertical panel. It will prevent future flexing of the coil stack wire.

VII. ADDITIONAL INFORMATION

A. Failed Components:

The RPI coil stack wire broke.

B. Previous LERs on Similar Events:

A review of previous reportable events did not identify any previous similar events.

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).

E. Unplanned Scram with Complications:

This condition did not result in an unplanned scram with complications.

VIII. COMMITMENTS

LICENSEE EVENT REPORT (LER)

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

None.