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Dale E. James  
Manager, Licensing - ANO

2CAN060801

June 3, 2008

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: Licensee Event Report 50-368/2008-002-00  
Arkansas Nuclear One – Unit 2  
Docket No. 50-368  
License No. NPF-6

Dear Sir or Madam:

In accordance with 10CFR50.73(a)(2)(IV)(A), enclosed is the subject report concerning a manual reactor trip from Hot Standby conditions.

There are no new commitments contained in this submittal.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale E. James", written over a light gray grid background.

DEJ/rs  
Enclosure

cc: Elmo Collins  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
612 E. Lamar Blvd., Suite 400  
Arlington, TX 76011-4125

NRC Senior Resident Inspector  
Arkansas Nuclear One  
P.O. Box 310  
London, AR 72847

Institute of Nuclear Power Operations  
700 Galleria Parkway  
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**LICENSEE EVENT REPORT (LER)**

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

Estimated burden per response to comply with this mandatory 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 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](mailto: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.

<b>1. FACILITY NAME</b> Arkansas Nuclear One – Unit 2	<b>2. DOCKET NUMBER</b> <b>05000368</b>	<b>3. PAGE</b> 1 of 3
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**4. TITLE** Manual Reactor Trip From Hot Standby Conditions Due to Perceived Inoperability of Individual Control Element Assembly Position Indication

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
4	7	2008	2008	- 002 -	00	6	6	2008	FACILITY NAME	DOCKET NUMBER
										<b>05000</b>
										<b>05000</b>

<b>9. OPERATING MODE</b>  3	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§:</b> <i>(Check all that apply)</i>			
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

<b>10. POWER LEVEL</b>  0	
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12. LICENSEE CONTACT FOR THIS LER	
NAME Dale E. James	TELEPHONE NUMBER (Include Area Code) 479-858-4619

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>14. SUPPLEMENTAL REPORT EXPECTED</b>				<b>15. EXPECTED SUBMISSION DATE</b>		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO								

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

On April 7, 2008, at approximately 1345 CST, with the plant shutdown in Mode 3, and with all Control Element Assemblies (CEAs) withdrawn two steps in preparation for CEA drop time testing, the Control Room was informed that the software verification for the Control Element Assembly Calculators (CEACs) had not been verified and that the CEACs should be considered inoperable. The Shift Manager (SM) was told by Reactor Engineering (RE) personnel that the raw CEA inputs to the CEACs could not be used to verify CEA position. Although the CEACs were not required to be operable in Mode 3, at least one position indicator is required to be operable for each CEA not fully inserted. At 1350, the Shift Manager directed that the reactor trip breakers be opened to comply with the associated technical specifications action statement. The cause of this event was inadequate communication between the SM and RE personnel which led to the incorrect conclusion that the CEA position indicators were inoperable. A "Lessons Learned" document regarding this event was prepared by the involved SM and was distributed to the SMs of both ANO units.

**LICENSEE EVENT REPORT (LER)**

1. FACILITY NAME	2. DOCKET NUMBER (2)	6. LER NUMBER			3. PAGE
Arkansas Nuclear One – Unit 2	05000368	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 3
		2008	- 002	- 00	

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

A. Plant Status

At the time this event occurred, Arkansas Nuclear One, Unit-2 (ANO-2) was in Mode 3 (Hot Standby) with the plant at normal operating temperature and pressure. All Control Element Assemblies (CEAs) were withdrawn two steps in preparation for CEA drop time testing.

B. Event Description

On April 7, 2008, at approximately 1345 CST, with the plant in Mode 3 (Hot Standby), and with all CEAs withdrawn two steps in preparation for CEA drop time testing, the Control Room was informed by the Computer Support Group (CSG) that the software verification for the Control Element Assembly Calculators (CEACs) had not been completed and that the CEACS should be considered inoperable. The Shift Manager (SM) was told by Reactor Engineering (RE) personnel that the Reed Switch Position Transmitter (RSPT) inputs to the CEACs could not be used to verify CEA position. Although the CEACs were not required to be operable in Mode 3, Technical Specification (TS) 3.1.3.3 requires at least one RSPT to be operable for each CEA not fully inserted in Modes 3, 4, and 5. With this condition not met, TS requires that the reactor trip breakers be opened immediately. At 1350, the Shift Manager concluded that the RSPTs were inoperable and directed that the reactor trip breakers be opened to comply with the associated TS action statement. All CEAs fully inserted into the reactor core, as designed.

C. Root Cause

There are two RSPTs for each CEA and two CEACs. Each CEAC receives input from one of the RSPTs from each CEA, compares it to the other three CEAs in its sub group, and provides position deviation input in the form of penalty factors to the Core Protection Calculators (CPCs). The CPCs use these penalty factors as multipliers in calculating Departure From Nucleate Boiling Ratio and Local Power Density. Although the CEACS were inoperable at the time of this event, the RSPTs for all CEAs remained operable.

The cause of this event was inadequate communication with RE and CSG personnel that resulted in an incorrect conclusion by the SM. The SM did not accurately communicate his question regarding the use of the RSPTs for determining CEA position to satisfy TS 3.1.3.3. His question was misinterpreted as asking if the RSPTs could be used to satisfy the CEAC function. RE personnel stated that the RSPTs could not be used for this function. Based on this response, the SM concluded that the RSPTs were inoperable and directed that the trip breakers be opened. In actuality, the RSPTs remained functional for the purpose of verifying CEA position throughout this event.

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		2008	- 002	- 00	

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

**D. Corrective Actions**

A “Lessons Learned” document was prepared by the involved SM and was distributed to the SMs for both ANO units.

**E. Safety Significance**

The reactor was sub-critical at the time of this event with boron concentration established for the performance of CEA drop time testing. As a result, the insertion of the CEAs (approximately 2 inches) had no measurable impact on reactivity. Considering these facts and that the SMs action in opening the trip breakers was conservative in nature, this event was of no safety significance

**F. Basis for Reportability**

A manual reactor trip is reportable pursuant to 10CFR50.73(a)(2)(IV)(A). In addition, this event was reported to the NRC Operations Center at 1957 CST on April 7, 2008, in accordance with 10CFR50.72(b)(3)(iv)(A)

**G. Additional Information**

There have been no previous similar events reported by ANO.