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U. S. Nuclear Regulatory Commission
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Washington, D. C. 20555

SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Licensee Event Report 50-313/90-017-00

Gentlemen:

In accordance with 10CFR50.73(a)(2)(iv), attached is the subject report concerning the inadvertent start of a Low Pressure Injection pump during post maintenance testing due to personnel error.

Very truly yours,

James J. Fisicaro

James J. Fisicaro
Manager, Licensing

JJF/RHS/mmg
Attachment
cc: Regional Administrator
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NRC Form 366 U.S. Nuclear Regulatory Commission
(6-89)

Approved OMB No. 3150-0104
Expires: 4/30/92

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4) Inadvertent Start of a Low Pressure Injection Pump During Post Maintenance Testing Due to Personnel Error

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
1 2	0 7	9 0	9 0	-- 0 1 7	-- 0 0	0 1	0 7	9 1		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)					
POWER LEVEL (10)	N	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)		73.71(b)
	0 0 0	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 (Area Code)
Richard H. Scheide, Nuclear Safety and Licensing Specialist	5 0 1 9 6 4 - 5 0 0 0

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	

SUPPLEMENT 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)

On December 7, 1990, at approximately 0125, an inadvertent automatic start of the 'B' Decay Heat Removal/Low Pressure Injection pump (P-34B) occurred during testing. On November 4, 1990, a time delay relay (162-405) which enables the Low Pressure Injection low flow alarm was replaced using an approved work plan. The prerequisites for the workplan required the circuit breaker for P-34B to be tagged open because the method of testing relay 162-405 would also initiate a pump start. Due to plant conditions at that time, the post maintenance test could not be performed and the hold card was released. On December 7, the electrician assigned to perform the test checked that the prerequisites were signed off, but did not physically reverify them. When a jumper was installed to test relay 162-405, P-34B started. The pump ran for approximately 5 seconds before being secured by an operator. The root cause of this event was personnel error. This event was discussed with Electrical Maintenance personnel. The importance of reverifying prerequisites prior to resuming jobs which are unexpectedly halted was stressed. Additionally, the 'Conduct of Maintenance' procedure will be revised to include appropriate guidance in this area.

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

A. Plant Status

At the time of this event, Arkansas Nuclear One, Unit One (ANO-1) was in the Cold Shutdown condition. Refueling outage 1R9 was in progress.

B. Event Description

On December 7, 1990 at approximately 0125, an inadvertent automatic start of the "B" Decay Heat Removal/Low Pressure Injection pump (P-34B) [BP] occurred during the performance of post maintenance testing of the Low Pressure Injection (LPI) system logic circuitry.

On November 4, 1990, Agastat time delay relay 162-405 was replaced in accordance with an approved work plan. This relay is in parallel with and is actuated at the same time as a relay which initiates an automatic start of P-34B. Its purpose is to enable the LPI low flow alarm 35 seconds after an Engineered Safeguards signal is received. The portion of the workplan detailing the replacement and post maintenance testing of this relay included in its prerequisites the requirement that the circuit breaker for P-34B be tagged open during performance of the relay changeout and subsequent testing. Due to plant conditions at the time the relay was replaced, it was not possible to perform the post maintenance test. Therefore, maintenance personnel released the hold card on the P-34B circuit breaker so that the pump could be utilized in the Decay Heat Removal (DHR) mode of operation, if needed.

On December 7, 1990, with the "B" DHR train in service, Electrical Maintenance personnel requested Operations to shift to the 'A' train to allow post maintenance testing of relay 162-405. At 2325, Electrical Maintenance was informed that DHR had been shifted to the 'A' train. The electrician assigned to the job requested and received permission from the Shift Supervisor to perform the post maintenance test. The electrician verified that the prerequisites were signed off in the workplan, but did not physically reverify that the circuit breaker for P-34B was tagged open. After the test jumper was installed to actuate the relay in accordance with the test, P-34B started automatically and the LPI low flow alarm annunciated. The electrician then removed his test jumper. The pump ran for approximately 5 seconds before being secured by a control room operator. However, there was no flow because the 'B' train isolation valves were closed.

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

C. Root Cause

The root cause of this event was determined to be personnel error. The principle of reverifying prerequisites prior to resuming a job which was halted or delayed is within the skill of the craft. However, inadequate procedural guidance was also a contributing factor. The 'Conduct of Maintenance' procedure did not contain guidance regarding the reverification of prerequisites for procedures, job orders or workplans prior to resuming work which was unexpectedly halted or delayed.

D. Corrective Actions

As an immediate corrective action, this event was discussed with Electrical Maintenance personnel. The importance of reverifying workplan prerequisites prior to resuming work which was unexpectedly halted or delayed was stressed.

The 'Conduct of Maintenance' procedure will be revised by February 15, 1991 to include guidance to ensure adequate reverification of prerequisites when jobs are unexpectedly stopped and restarted.

Additionally, training on this event and the lessons learned from it and on the above referenced revision to the 'Conduct of Maintenance' procedure will be provided to the maintenance personnel of ANO-1 and ANO-2 by March 1, 1991.

E. Safety Significance

The safety significance of this event is considered minimal since the 'B' train isolation valves were closed at the time the pump was inadvertently started and no flow was initiated.

F. Basis For Reportability

This event is considered reportable pursuant to 10CFR50.73(a)(2)(iv) as an inadvertent actuation of an Engineered Safety Feature.

G. Additional Information

There have been no previous events reported in which failure to reverify prerequisites prior to resuming a job resulted in actuation of an Engineered Safety Feature.

Energy Industry Identification System codes are identified in the text as [XX].