



June 12, 1992

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U. S. Nuclear Regulatory Commission
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SUBJECT: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Licensee Event Report 50-313/92-005-00

Gentlemen:

In accordance with 10CFR50.73(a)(2)(i)(B), enclosed is the subject report concerning the steam driven emergency feedwater pump.

Very truly yours,

James J. Fisicaro
Director, Licensing

JJF/EKH/mmg

Enclosure

cc: Regional Administrator
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U. S. Nuclear Regulatory Commission
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Arkansas Nuclear One, Unit One

DOCKET NUMBER (2) | PAGE (3)
050003 | 1 | 3 | 1 | OF | 0 | 3

TITLE (4) Emergency Feedwater Pump Inoperable During Plant Operation As a Result of Improper Pump Set Up During Refueling Outage Due to Inadequate Procedural Guidance

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	1	9	9	2	9	2	--	0	0	5	--	0	0	0	6	1	2	9	2	0	5	0	0	0

OPERATING MODE (9) N THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

POWER LEVEL (10)	20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.405(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vi)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(c)	Other (Specify in Abstract below and in Text, NRC Form 366A)	
1	0											X											

LICENSEE CONTACT FOR THIS LER (12)

Name	Telephone Number
Elizabeth K. Holbert, Nuclear Safety and Licensing Specialist	Area Code: 501-964-1500

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

Cause	System	Component	Manufacturer	Reportable to NRC	Cause	System	Component	Manufacturer	Reportable to NRC
D	B	A	P						
				1	0	7	5		Y

SUPPLEMENT REPORT EXPECTED (14)

Yes (If yes, complete Expected Submission Date)	No	EXPECTED SUBMISSION DATE (15)	Month	Day	Year
<input type="checkbox"/>	<input checked="" type="checkbox"/>				

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

On May 19, 1992, during power operation, steam driven Emergency Feedwater (EFW) pump P-7A was declared inoperable due to the presence of metal shavings in an oil sample taken from the pump. P-7A was rebuilt during refueling outage 1R10 and subsequently passed a surveillance test at hot shutdown during plant startup. However, during the monthly surveillance on May 18, 1992 abnormal vibration readings were recorded which prompted further evaluation of the pump. Analysis of a lube oil sample from P-7A identified the presence of metal shavings. At 1607 on May 19, 1992, P-7A was declared inoperable and the appropriate Technical Specification action statement was entered. P-7A was repaired and successfully passed its surveillance. The pump was declared operable and the Technical Specification action statement was exited at 0440 on May 20, 1992. An evaluation of this event determined the pump shaft was not properly centered during the rebuilding process. This condition resulted in excessive wear of the thrust bearing. The root cause of this condition was determined to be inadequate procedural guidance to ensure proper alignment of the pump shaft. The pump maintenance procedure has been revised to contain additional guidance to ensure the shaft is centered properly when the pump is rebuilt.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)		
		Sequential		Revision						
		Year	Number	Number	Number					
Arkansas Nuclear One, Unit One	05000313	92	--	0	5	--	0	0	02	03

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

A. Plant Status

At the time this condition was identified, Arkansas Nuclear One Unit 1 (ANO-1) was operating at approximately 100 percent power with Reactor Coolant System (RCS) [AB] temperature at 579 degrees and pressure 2155 psig.

B. Event Description

On May 19, 1992 at 1607 Emergency Feedwater (EFW) [BA] pump P-7A was declared inoperable due to the presence of metal shavings in an oil sample taken from the pump.

The EFW system is designed to provide a means of supplying water to the steam generators following a main steam line rupture or loss of main feedwater, to remove reactor decay heat and provide for cooldown of the RCS to within the temperature and pressure at which the Decay Heat Removal [BP] System can be placed into operation. The EFW system employs one turbine driven pump (P-7A), one motor driven pump (P-7B) and independent feedwater flow paths from each train. The two EFW trains are powered by diverse power sources to ensure their availability and each train is capable of supplying either or both of the steam generators.

P-7A was rebuilt during refueling outage 1R10 due to vendor identified deficiencies and passed a surveillance test which was performed on May 5, 1992 while the plant was in hot shutdown. However, during the monthly surveillance on May 18, 1992 abnormal vibration readings were recorded which prompted further evaluation of the pump. Analysis of a lube oil sample from P-7A identified the presence of metal shavings. Operations was notified of this condition and at 1607 on May 19, 1992, P-7A was declared inoperable and the appropriate Technical Specification action statement was entered which requires that the reactor shall be brought to hot shutdown within 36 hours if the pump is not restored to operable status. P-7A was repaired and successfully passed its surveillance. The pump was declared operable and the Technical Specification action statement was exited at 0440 on May 20, 1992.

C. Root Cause

An evaluation of this event determined the pump shaft was not properly centered during the rebuilding process. This condition resulted in excessive wear of the thrust bearing. The root cause of this condition was determined to be inadequate procedural guidance to ensure proper alignment of the pump shaft.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Arkansas Nuclear One, Unit One	0500000313	9	2	--	0	0	5	--	0	0	03	OF	03

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

D. Corrective Actions

The EFW pump maintenance procedure has been revised to include additional guidance to ensure the shaft is centered properly when the pump is rebuilt.

E. Safety Significance

The safety significance of this condition is reduced by the fact that the motor driven EFW pump (P-7B) remained operable and was capable of supplying feedwater to either or both of the steam generators while this condition existed. In addition, although it cannot be stated with reasonable assurance that P-7A would have been able to supply rated flow for sufficient time to meet its design basis requirements; it did remain capable of delivering feedwater flow to the steam generators in its degraded condition.

F. Basis For Reportability

Technical Specification 3.4.1.4 states that the reactor shall not be heated above 280 degrees unless both EFW pumps and their flow paths are operable. Technical Specification 3.4.5 states that with one EFW flow path inoperable, the unit shall be brought to hot shutdown within 36 hours, and if not restored to an operable status within the next 36 hours, the unit shall be brought to cold shutdown within the next 12 hours. Since P-7A was improperly set up when it was rebuilt during 1R10; and because it cannot be stated with reasonable assurance that it would have been capable of meeting its design basis requirement, it must be considered to have been inoperable since that time. Therefore, this condition is reportable pursuant to 10CFR50.73(a)(2)(i)(B) as an operation prohibited by Technical Specifications.

G. Additional Information

A previous event in which the P-7A pump shaft was improperly setup was reported in LER 50-313/85-001-01. However, the root cause of the previous event was determined to be the introduction of foreign material into the pumps balancing drum during setup. Therefore, the corrective actions taken with respect to that event were not adequate to prevent the occurrence of this event.

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