

(9-83)

U.S. Nuclear Regulatory Commission
Approved OMB No. 3150-0104
Expires: 8/31/85

L I C E N S E E E V E N T R E P O R T (L E R)

FACILITY NAME (1) Arkansas Nuclear One, Unit One DOCKET NUMBER (2) PAGE (3)
10151010101 31 11 3110F1012

TITLE (4) Steam Driven Emergency Feedwater Pump Inoperable

EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
Month	Day	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Names	Docket Number(s)
01	11	01	7	8	5	8	5		0151010101

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)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(x)	73.71(b)	73.71(c)	Other (Specify in Abstract below and in Text, NRC Form 366A)

L I C E N S E E C O N T A C T F O R T H I S L E R (1 2)

Name: Patrick Rogers, Plant Licensing Engineer
 Telephone Number: [Area] [Code] 51011916141-1311010

C O M P L E T E O N E L I N E F O R E A C H C O M P O N E N T F A I L U R E D E S C R I B E D I N T H I S R E P O R T (1 3)

Cause	System	Component	Manufacturer	Reportable to NPRDS	Cause	System	Component	Manufacturer	Reportable to NPRDS
A	B	A	P						
				Y					

S U P P L E M E N T R E P O R T E X P E C T E D (1 4)

[X] Yes (If yes, complete Expected Submission Date) [] No
EXPECTED SUBMISSION DATE (15) 0 8 01 1 8 5

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

During surveillance testing of Emergency Feedwater pump P-7A (EIS identifier = BA-P-0007A) on 1/7/85, the pump failed to develop required flow and discharge pressure due to insufficient steam flow to the turbine driver. Subsequently, excessive balance drum clearances on P-7A were identified. Technical Specification (TS) 3.4.1.4 requires that the pump be operable prior to exceeding 280°F. Since sufficient steam pressure does not exist earlier, surveillance testing to prove operability is performed upon achieving hot shutdown following a plant heatup. Investigation revealed that P-7A was not operable when RCS temperature exceeded 280°F during plant heatup on 1/4/85, and that the time requirements of TS 3.4.5.1 were exceeded. The insufficient steam flow resulted from an inadequate plant modification. The excessive balance drum clearances are believed to have resulted from foreign material within the balance drum, introduced during outage related modifications, interfering with balance drum setup during reassembly of the pump. The errors associated with the plant modification were corrected. The balance drum clearances were properly set. Surveillance testing on P-7A was completed satisfactorily on 1/8/85, and the pump was declared operable.

8502250764 850208
PDR ADCK 05000313
S PDR

JE22
4/1

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		Year	Sequential Number	Revision Number	
Arkansas Nuclear One, Unit One	05101013113	85	01	01	12

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

At 0240 hours on 1/7/85, during refueling outage (IR6) startup surveillance testing, steam driven emergency feedwater pump P-7A testing was stopped because adequate steam flow to the turbine could not be attained. Inspection of the system and its components revealed an orifice in the steam supply line to the turbine with an associated manual bypass valve in the closed position. The orifice and bypass valve were required for steam flow control prior to replacement of the turbine during the previous refueling outage (IR5). The orifice should have been removed during the IR5 design change that replaced the turbine. The manual bypass valve was partially opened resulting in normal turbine steam chest pressure and turbine speed.

At 1848 hours, P-7A surveillance testing was again started, but at 1913 hours was stopped because the surveillance limits for bearing temperature were exceeded. Investigation revealed that the apparent balance drum clearances shifted during testing thus becoming excessive. The clearances were reset within acceptable tolerances. The surveillance was successfully completed at 0146 hours on 1/8/85, and P-7A was declared operable at 0305 hours on 1/8/85.

An investigation of these events determined the following:

1. The manual bypass valve in the line around the orifice had been in a throttled position during cycle 6 operation, allowing adequate steam flow to the turbine driver.
2. The design change which replaced the turbine driver during the IR5 outage did not adequately specify removal of the flow orifice.
3. The excessive balance drum clearances are believed to have resulted from foreign material within the balance drum, introduced during outage related modifications, interfering with balance drum setup during reassembly of the pump.

Corrective action taken include:

1. The internals of the manual bypass valve were removed and the orifice was removed from the flanged section of pipe.
2. Identified weaknesses in design package review are being addressed by AP&L management as a result of this event.
3. The balance drum clearances were reset as stated above. The maintenance procedure is being reviewed to assure sufficient precautions, cleanliness controls, and instructions are provided; procedure improvements will be made where needed.

Technical Specification (TS) 3.4.1.4 requires both EFW pumps to be operable prior to the reactor being heated above 280°F. However, surveillance testing cannot be performed until sufficient steam pressure exists thus operability cannot be verified until hot shutdown is achieved following a plant heatup in accordance with TS 4.8.1.A.1. This testing determined that the pump was not operable when RCS temperature exceeded 280°F on 1/4/85, and remained inoperable until 0305 hours on 1/8/85. This time period exceeds the maximum allowable by the technical specification limiting condition for operation.

The redundant flow paths to the steam generators utilizing the motor driven pump, P-78, were operable.



ARKANSAS POWER & LIGHT COMPANY
POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000
February 8, 1985

1CANØ285Ø3

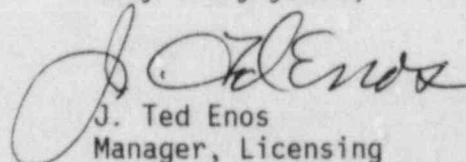
U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Arkansas Nuclear One - Unit 1
Docket No. 50-368
License No. NPF-6
Licensee Event Report
No. 85-001-00

Gentlemen:

In accordance with 10CFR50.73 (a)(2)(vii), attached is the subject report concerning the inoperability of steam driven emergency feedwater pump P-7A.

Very truly yours,


J. Ted Enos
Manager, Licensing

JTE:RJS:ds

Attachment

cc: Mr. Richard C. DeYoung
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. Norman M. Haller, Director
Office of Management & Program Analysis
U. S. Nuclear Regulatory Commission
Washington, DC 20555

IE22
1/1