A 6/12/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS) DISTRIBUTION FOR INCOMING MATERIAL 50 - 331

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ORG: HAMMOND E L

NRC

SUBJECT:

IA ELEC LIGHT & PWR

DOCDATE: 06/02/78

DATE RCVD: 06/08/78

DOCTYPE: LETTER

NOTARIZED: NO

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LTR 1 ENCL 1 FORWARDING LICENSEE EVENT REPT (RO 50-331/78-025) ON 05/19/78 CONCERNING

DURING HPCI SYSTEM SURV. TESTING HPCI PUMP DID NOT REACH REQUIRE D DISCHARGE

FLOW RATE OF 3000 GPM DUE TO FAILURE OF TURBINE TO REACH FULL RATED

SPEED. . . W/ATT.

PLANT NAME: DUANE ARNOLD

REVIEWER INITIAL: MLX

DISTRIBUTOR INITIAL: DU

INCIDENT REPORTS (DISTRIBUTION CODE A002)

FOR ACTION:

BR CHIEF ORB#3 BC**W/4 ENCL

INTERNAL:

REG FILE **W/ENCL

**** EF**W/2 ENCL

I & C SYSTEMS BR**W/ENCL

NOVAK/CHECK**W/ENCL AD FOR ENG**W/ENCL

HANAUER**W/ENCL

AD FOR OPER TECH**W/ENCL

ENGINEERING BR**W/ENCL

KREGER/J. COLLINS**W/ENCL

K SEYFRIT/IE**W/ENCL

NRC PDR**W/ENCL

MIPC**W/3 ENCL

EMERGENCY PLAN BR**W/ENCL

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PLANT SYSTEMS BR**W/ENCL

AD FOR PLANT SYSTEMS**W/ENCL

REACTOR SAFETY BR**W/ENCL

VOLLMER/BUNCH**W/ENCL POWER SYS BR**W/ENCL

EXTERNAL:

LPDR'S

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COPIES NOT SUBMITTED PER REGULATORY GUIDE 10.1

DISTRIBUTION:

LTR 45

ENCL 45

CONTROL NBR:

781600335

SIZE: 1P+1P+1P

THE END *********************

IOWA ELECTRIC LIGHT AND POWER COMPANY

DUANE ARNOLD ENERGY CENTER

P. O. Box 351
Cedar Rapids, Iowa 52406
June 2, 1978
DAEC - 78 - 278

Mr. James G. Keppler, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission-Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Licensee Event Report No. 78-025

(14 day)

File: A-118a

Dear Mr. Keppler:

In accordance with Appendix A to Operating License DPR-49, Technical Specifications and Bases for Duane Arnold Energy Center and Regulatory Guide 10.1, please find attached a copy of the subject Licensee Event Report. (Total of 3 copies transmitted)

Very truly yours,

Eller I. Hammond

Chief Engineer

Duane Arnold Energy Center

Docket 50-331

attachment ELH/DLW/nf

cc: Director, Office of Inspection and Enforcement (40) U. S. Nuclear Regulatory Commission Washington, D.C. 20555

Director, Management Information and Program Control (3) U. S. Nuclear Regulatory Commission Washington, D.C. 20555

781600335

NRC EORM 366 (7-77)

LICENSEE EVENT REPORT

S.	NUCLEAR	REGULATORY	COMMIS

Elocitore event tiel offi	
CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)	
0 1 I A D A C 1 2 0 0 - 0 0 0 0 - 0 0 3 4 1 1 1 1 4 5 5 TOTAL SE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58	
CON'T O 1 SOURCE L GO 5 0 0 0 3 3 1 7 0 5 1 9 7 8 3 0 6 0 2 7 8 9 EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10 During HPCI system surveillance testing, HPCI pump did not reach require	J
0]3 d discharge flow rate of 3000 gpm due to failure of turbine to reach ful]
0 4 1 rated speed. HPCI system declared inoperable. Redundant ECCS verified	j
o solution operable. Repetitive occurrence. See RO 77-77, 77-95 and 77-96.]
0 6	١
0 7]
08]
SYSTEM CAUSE CAUSE COMPONENT CODE COMPONENT CODE SUBCODE SUBCO	7] <u>26</u>
CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)	/
1 0 Cause of occurrence unknown. Under investigation by licensee's Engineer	<u>د</u>
ing Department. Potential cause is abnormal amounts of water in HPCI tur	
bine lube oil system affecting turbine controls. Auxiliary oil pump cutof	
1 3 f pressure was temporarily increased to maintain HPCI system operable.	ٳ
Surveillance testing temporarily increased to bi-weekly. 80 80 80 80 80 80 80 80 80 8	9
STATUS & POWER OTHER STATUS DISCOVERY DISCOVERY DESCRIPTION (32) 1 5 E 28 0 9 3 29 NA B 31 Surveillance Testing 7 8 9 10 12 13 44 45 46 80	,
RELEASED OF RELEASE AMOUNT OF ACTIVITY (35) 1 6 Z 33 Z 34 NA	١
PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION 39 1 7 0 0 0 37 Z 38 NA 7 8 9 11 12 13	ļ
7 8 9 11 12 13 PERSONNEL INJURIES NUMBER DESCRIPTION (41) 1 3 0 0 0 (40) NA	,
LOSS OF OR DAMAGE TO FACILITY 43 TYPE DESCRIPTION NO. 10 10 10 10 10 10 10 10 10 10 10 10 10	I
1 9 Z (42) NA 7 8 9 10 PUBLICITY (45) NRC USE ONLY	0
2 0 N 44 NA	7.83
7 8 9 10 68 69 80 NAME OF RECEASES D. Wilson RUONE. 319-851-5611	. 2

Iowa Electric Light and Power Company

LICENSEE EVENT REPORT-Supplemental Data

Docket Number 050-0331

Licensee Event Report Date: 6-2-78

Reportable Occurrence No: 78-025

Event Description

During surveillance testing of the HPCI System, the HPCI pump did not reach the required discharge flow rate (3000 gpm) due to failure of the turbine to reach full rated speed. The HPCI system was declared inoperable and redundant emergency core cooling systems were demonstrated to be operable. This occurrence is repetitive (see RO 77-77, 77-95 and 77-96).

Cause

The cause of the occurrence remains under investigation. Investigation as to the result of previous occurrences has been inconclusive. Following RO 77-096, the most probable cause was thought to be wear in the turbine shaft driven oil pump. It was thought that the capacity of the shaft driven oil pump at low turbine speeds was insufficient to fully open the turbine stop valve and allow the turbine to reach rated speed. However, disassembly and inspection of the shaft driven oil pump during the recent refueling outage did not reveal any abnormal wear or other problems which would limit the pumps capability to reach full capacity.

The continuing investigation has identified another possible cause for the repetitive occurrences. Abnormal amounts of water have been discovered in the HPCI turbine lube oil system. The water in the oil may be causing abnormal operation of the HPCI turbine control system. The source of the water and determination of appropriate corrective actions are under investigation by the licensee's Engineering Department.

Corrective Action

As a temporary measure, the auxiliary oil pump cutoff pressure switch setpoint has been raised slightly to extend pump run time during HPCI system start. Special testing performed as a result of the previous occurrences demonstrated that satisfactory starts of the HPCI system are obtained with the auxiliary oil pump cutoff pressure switch setpoint elevated slightly. Pending completion of investigation into the cause of the occurrences and implementation of corrective actions, the frequency for performance of HPCI surveillance testing has been increased to bi-weekly.