REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8006090380 DOC.DATE: 80/06/02 NOTARIZED: NO DOCKET #
FACIL:50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331
AUTH.NAME AUTHOR AFFILIATION
DUBOST,E.L. Iowa Electric Light & Power Co.
RECIP.NAME RECIPIENT AFFILIATION
Region 3, Chicago, Office of the Director

SUBJECT: Updated LER 79-016/01X-1:on 790725,during normal operation, plant heat rates & efficiencies was determined to be better than normally expected.Investigation revealed leaking instrument causing measurement error.

DISTRIBUTION CODE: A002S COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 1+
TITLE: Incident Reports

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
ACTION:	05 BC ORB #3	4	4			
INTERNAL:	01 REG FILE	1	1	02 NRC PDR	1	1
	09 I&E	2	2	11 MPA	3	3
	15 NOVAK/KNIEL	1	1	16 EEB	1	1
	17 AD FOR ENGR	1	1	18 PLANT SYS BR	1	1
	19 I&C SYS BR	1	1	20 AD PLANT SYS	1	1
	22 REAC SAFT BR	1	1	23 ENGR BR	1	1
	24 KREGER	1	1	25 PWR SYS BR	1	1
	26 AD/SITE ANAL	1	1	27 OPERA LIC BR	1	1
	28 ACDENT ANLYS	1	1	29 AUX SYS BR	1	1
	AD/ORP-DOR	1	1	AEOD	10	10
	BERLINGER,C.	3	3	DOUG MAY-TERA	1	1
	HANAUER,S.	1	1	JORDAN,E./IE	1	1
EXTERNAL:	03 LPDR	1	1	04 NSIC	1	1
	29 ACRS	16	16			

JUN 10 1980

AD/E 4

60

TOTAL NUMBER OF COPIES REQUIRED: LTTR 60 ENCL 60

DUANE ARNOLD ENERGY CENTER

Iowa Electric Light and Power Company

Licensee Event Report - Supplemental Data

Docket No. 050-0331

Licensee Event Report Date: June 2, 1980

Reportable Occurrence No: 79-016, Update report, previous report 8-8-79

EVENT DESCRIPTION

During normal operation it was determined that plant heat rate and efficiencies were better than normally expected. An investigation was initiated to explain this observation.. The investigation centered around feedwater flow instrumentation as this is the largest contributor to the core thermal power calculation which, together with electrical output determines the calculated plant efficiency. During a plant outage on July 21, 1979 it was observed that the internals of the equalizing valves on the valve manifolds for the flow transmitters for both feedwater trains were slightly "steam cut", allowing a small amount of bypass flow. The valves were repaired and reassembled. Upon plant startup heat rate and efficiencies were found to be close to expected values. Calculations have since been performed which indicate the plant licensed thermal power limit was exceeded on several occasions during Cycle 4B operations. Because of this it can also be concluded that LHGR and the operating limit MCPR and MAPLHGR were also exceeded.

General Electric Company, the plant fuel vendor, has performed an evaluation of the over power effects and has concluded that the heat generation rate did not exceed fuel and cladding design limits. Since no design basis transients or accidents occurred, no safety limits were violated. Power operation is now within thermal limits. Reference Operating License DPR-49 and Technical Specifications, Sections 1.1 and 3.12.

CAUSE DESCRIPTION

The bypass flow through the valve manifold equalizing valves produced a low feedwater flow indication which in turn caused the core thermal power calculation to be non-conservative. Licensed thermal power was exceeded by approximately 2.5%. The manifolds were manufactured by Hex Industries.

CORRECTIVE ACTION

The equalizing valves were lapped and reassembled. The valve manifolds will be replaced during the 1981 refuel outage with manifolds of the same type used with RPS instrumentation in the plant. Also, a design change to add redundant feedwater flow indication will be implemented.

JUN 5 1980

NRC FORM 366
(7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

Upda report
Previous report 8-8-79

CONTROL BLOCK: (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

Line	Field	Value
01	LICENSEE CODE (2)	I A D A C 1
	LICENSE NUMBER (3)	0 0 - 0 0 0 0 0 - 0 0
	LICENSE TYPE (4)	4 1 1 1 1
	CAT (5)	
CON'T 01	REPORT SOURCE (6)	L
	DOCKET NUMBER (7)	0 5 0 0 0 3 3 1
	EVENT DATE (8)	0 7 2 5 7 9
	REPORT DATE (9)	0 6 0 2 8 0

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 During normal operation it was determined that plant heat rates and effi
03 ciencies were better than normally expected. An investigation revealed
04 that leaking instrument manifold valves caused a feedwater measurement
05 error. It has since been calculated that the licensed thermal power limi
06 t was exceeded. It can be concluded MAPLHGR, LHGR and MCPR limits were
07 exceeded. A GE analysis concluded that fuel and cladding design limits
08 were not exceeded. No safety limits were violated.

09	SYSTEM CODE (11)	CAUSE CODE (12)	CAUSE SUBCODE (13)	COMPONENT CODE (14)	COMP. SUBCODE (15)	VALVE SUBCODE (16)
	C H	E	B	V A L V E X	K	X

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
7 9	—	0 1 6	/	0 1	X	—	1

ACTION TAKEN (18)	FUTURE ACTION (19)	EFFECT ON PLANT (20)	SHUTDOWN METHOD (21)	HOURS (22)	ATTACHMENT SUBMITTED (23)	NPRD-4 FORM SUB. (24)	PRIME COMP. SUPPLIER (25)	COMPONENT MANUFACTURER (26)
B	F	Z	Z	0 0 0 0	Y	N	N	H 1 6 7

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The equalizing valves on the valve manifolds for the flow transmitters f
11 or both feedwater trains were slightly steam cut, which allowed bypass fl
12 ow and gave low F/W flow indication. This caused the core thermal power
13 calculation to be non-conservative. Valves lapped. Manifold made by Hex
14 Industries will be replaced. Redundant indication will be added.

15	FACILITY STATUS (28)	% POWER (29)	OTHER STATUS (30)	METHOD OF DISCOVERY (31)	DISCOVERY DESCRIPTION (32)
	E	0 8 7	NA	C	SPECIAL INVESTIGATION

16	ACTIVITY RELEASED (33)	CONTENT OF RELEASE (34)	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
	Z	Z	NA	NA

PERSONNEL EXPOSURES

17	NUMBER (37)	TYPE (38)	DESCRIPTION (39)
	0 0 0	Z	NA

PERSONNEL INJURIES

18	NUMBER (40)	DESCRIPTION (41)
	0 0 0	NA

LOSS OF OR DAMAGE TO FACILITY (43)

19	TYPE (42)	DESCRIPTION
	Z	NA

8006090380

PUBLICITY

20	ISSUED (44)	DESCRIPTION (45)	NRC USE ONLY
	N		

NAME OF PREPARER E. L. Dubost PHONE: 319-851-5611

JUN 5