B07/12/78

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

REC: KEPPLER J G
NRC

ORG: HAMMOND E L
IA ELEC LIGHT & PWR

DOCDATE: 06/30/78
DATE RCVD: 07/10/78

DOCTYPE: LETTER NOTARIZED: NO
SUBJECT:
FORWARDING LICENSEE EVENT REPT (RO 50-331/78-031) ON 06/17/78 CONCERNING AUTOMATIC REACTOR SCRAM OCCURRED, DUE TO SEVEN REACTOR PROTECTION SYSTEM RELAY AUXILIARY SWITCHES BECOMING LOOSE ON THE RELAY AND RESULTING IN THE BACK UP SCRAM VALVES BEING ENERGIZED

COPIES RECEIVED
LTR 1 ENCL 1

PLANT NAME: DUANE ARNOLD

REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL:

********** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS **********

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: BR CHIEF ORB#3 BC**W/4 ENCL

INTERNAL:
REG FILE**W/ENCL
I & E**W/2 ENCL
I & C SYSTEMS BR**W/ENCL
NOVAK/CHECK**W/ENCL
AD FOR ENG**W/ENCL
HANAUER**W/ENCL
AD FOR SYS & PROJ**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
EEB**W/ENCL
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
CEDAR RAPIDS, IA**W/ENCL
TERA**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

DISTRIBUTION: LTR 45 ENCL 45
SIZE: 1P+1P+1P

CONTROL NBR: 781930033

A046D

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

IOWA ELECTRIC LIGHT AND POWER COMPANY

DUANE ARNOLD ENERGY CENTER
P. O. Box 351
Cedar Rapids, Iowa 52406

June 30, 1978
DAEC - 78 - 325

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. 78-031 (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,

Ellery L. 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

781930033

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

0 1 | I A D A C 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)

LICENSEE CODE | LICENSE NUMBER | LICENSE TYPE | CAT

CON'T 0 1 REPORT SOURCE | L (6) | 0 5 0 0 0 3 3 1 (7) | 0 6 1 7 7 8 (8) | 0 6 3 0 7 8 (9)

DOCKET NUMBER | EVENT DATE | REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 During weekly control valve testing an automatic reactor scram occurred.
0 3 Subsequent investigation revealed the scram had occurred due to seven
0 4 reactor protection system relay auxiliary switches becoming loose on the
0 5 relay and resulting in the back up scram valves being energized. The pl
0 6 ant was left in the shutdown condition for repairs. The operation of the
0 7 reactor protection system relays was not affected by the problem with
0 8 the auxiliary switches.

0 9	SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
	R B (11)	E (12)	E (13)	R E L A Y (14)	A (15)	Z (16)

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
7 8	—	0 3 1	/	0 1	T	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
B (18)	F (19)	A (20)	C (21)	0 0 0 8	Y (23)	N (24)	N (25)	G 0 8 0 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The cause of the switch problems was traced to the screw which retains t
1 1 he operating arm of the auxiliary switch becoming loose and backing out.
1 2 This caused misoperation and in one case allowed the arm to fall off. The
1 3 retaining screws and operating arms were reinstalled and tightened. Eng
1 4 ineering evaluation in progress to determine a better screw retaining method.

1 5	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
	F (28)	0 6 2 (29)	NA	B (31)	Routine Test

1 6	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
	Z (33)	Z (34)	NA	NA

PERSONNEL EXPOSURES

1 7	NUMBER	TYPE	DESCRIPTION (39)
	0 0 0 (37)	Z (38)	NA

PERSONNEL INJURIES

1 8	NUMBER	DESCRIPTION (41)
	0 0 0 (40)	NA

LOSS OF OR DAMAGE TO FACILITY (43)

1 9	TYPE	DESCRIPTION
	Z (42)	NA

PUBLICITY

2 0	ISSUED	DESCRIPTION (45)	NRC USE ONLY
	N (44)	NA	

NAME OF PREPARER J. Van Sickel PHONE: 319-851-5611

DUANE ARNOLD ENERGY CENTER

Iowa Electric Light and Power Company

LICENSEE EVENT REPORT-Supplemental Data

Docket Number 050-0331

Licensee Event Report Date: 063078

Reportable Occurrence No: 78-031

Event Description

During weekly control valve testing an automatic reactor scram occurred. Subsequent investigation revealed the scram had occurred due to seven reactor protection system relay auxiliary switches becoming loose on the relay and resulting in the back up scram valves being energized. The plant was left in the shutdown condition for repairs. The operation of the reactor protection system relays was not affected by the problem with the auxiliary switches.

Cause Description

The cause of the switch problems was traced to the screw which retains the operating arm of the auxiliary switch becoming loose and backing out. This caused misoperation and in one case allowed the arm to fall off. The screw as designed is secured by a lock washer whichs mates with a chambered surface which does not provide a good locking surface. The relay is a General Electric Model CR105X.

Corrective Action

The retaining screws and operating arms were reinstalled and tightened. An engineering evaluation is in progress to determine a more reliable screw retaining method.