

A 03/07/78

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

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DOCDATE: 03/01/78
DATE RCVD: 03/07/78

DOCTYPE: LETTER NOTARIZED: NO
SUBJECT:

COPIES RECEIVED
LTR 1 ENCL 1

LICENSEE EVENT REPT (RD 50-331/78-011) ON 02/15/78 CONCERNING
ELEVEN RECIRCULATION LOOP PIPE WHIP RESTRAINTS DO NOT MEET LIC
DESIGN CRITERIA DUE TO CALCULATIONAL INACCURACIES IN PREDICTED
PERFORMANCE CHARACTERISTICS.

PLANT NAME: DUANE ARNOLD

REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL: *ML*

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

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: *BR CHIEF LEAR**W/4 ENCL*

INTERNAL: *REG FILE**W/ENCL*
*I & E**W/2 ENCL*
SCHROEDER/IPPOLITO**W/ENCL
NOVAK/CHECK**W/ENCL
KNIGHT**W/ENCL
HANAUER**W/ENCL
EISENHUT**W/ENCL
SHAO**W/ENCL
KREGER/J. COLLINS**W/ENCL
K SEYFRIT/IE**W/ENCL

NRC PDR**W/ENCL
MIPC**W/3 ENCL
HOUSTON**W/ENCL
GRIMES**W/ENCL
BUTLER**W/ENCL
TEDESCO**W/ENCL
BAER**W/ENCL
VOLLMER/BUNCH**W/ENCL
ROSA**W/ENCL

EXTERNAL: LPDR'S
CEDAR RAPIDS, IA**W/ENCL
TIC**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

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

CONTROL NBR: 780680040

***** THE END ***** *60 A04*

IOWA ELECTRIC LIGHT AND POWER COMPANY

DUANE ARNOLD ENERGY CENTER
P. O. Box 351
Cedar Rapids, Iowa 52406
March 1, 1978
DAEC - 78 - 136

50-331



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. 78-011
(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

Ellery L. Hammond
Chief Engineer
Duane Arnold Energy Center

Docket 50-331

attachment

ELH/JVS/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

A002
S
111

LICENSEE EVENT REPORT

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

01 IADAC1 000-0000000-000 34111111 4 5

CON'T 01 REPORT SOURCE L 05000331 70211578 8 030178 9

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10
02 During a design review it was determined that eleven recirculation loop
03 pipe whip restraints do not meet license design criteria. The review was
04 conducted by the NSSS vendor using refined testing techniques to compar
05 le actual restraint performance with original design predicted characteri
06 stics. The purpose of the restraints is to prevent excessive pipe moveme
07 nt which could cause damage to the primary containment or damage to adja
08 cent pipe which if ruptured, would exceed the DBA break area.

09 SYSTEM CODE CB 11 CAUSE CODE B 12 CAUSE SUBCODE A 13 COMPONENT CODE SUPPORT 14 COMP. SUBCODE X 15 VALVE SUBCODE Z 16
17 LER/RO REPORT NUMBER 78 21 22 23 24 26 27 28 29 30 31 32 33 34 35 36 37 40 41 42 43 44 47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27
10 The recirculation loop pipe whip restraints as designed and built did no
11 t meet license design criteria due to calculational inaccuracies in pred
12 icted performance characteristics. New whip restraints are currently bei
13 ng designed and fabricated based on the most recent calculations. Plans
14 are to install the new restraints during the 1978 refueling outage.

15 FACILITY STATUS E 28 % POWER 096 29 OTHER STATUS NA 30 METHOD OF DISCOVERY C 31 DISCOVERY DESCRIPTION Special Design Review 32

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

17 PERSONNEL EXPOSURES NUMBER 000 37 TYPE Z 38 DESCRIPTION NA 39

18 PERSONNEL INJURIES NUMBER 000 40 DESCRIPTION NA 41

19 LOSS OF OR DAMAGE TO FACILITY TYPE Z 42 DESCRIPTION NA 43

20 PUBLICITY ISSUED N 44 DESCRIPTION NA 45

NAME OF PREPARER J. Van Sickle

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: March 1, 1978

Reportable Occurrence No: LER 78-011

Event Description

During a design review it was determined that eleven recirculation loop pipe whip restraints do not meet license design criteria. The review was conducted by the NSSS vendor using refined testing techniques to compare actual restraint performance with original design predicted characteristics. The purpose of the restraints is to prevent excessive pipe movement which could cause damage to the primary containment or damage to adjacent pipe which, if ruptured, would exceed the DBA break area.

Cause Description

The recirculation loop pipe whip restraints as designed and built did not meet license design criteria due to calculational inaccuracies in predicted performance characteristics. The new design calculations were made using technologies and advanced testing methods which were not available when the original designs were formulated.

Corrective Action

New whip restraints are currently being designed and fabricated based on the most recent calculations. Plans are to install the new restraints during the 1978 refueling outage.