

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8011260254      DOC. DATE: 80/11/19      NOTARIZED: NO      DOCKET #  
 FACIL: 50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow      05000331  
 AUTH. NAME:      AUTHOR AFFILIATION  
 MINECK, D.L.      Iowa Electric Light & Power Co.  
 RECIP. NAME:      RECIPIENT AFFILIATION  
 KEPPLER, J.G.      Region 3, Chicago, Office of the Director

SUBJECT: RO: on 801111, reactor vessel excessive cooldown rate in  
 apparent violation of Tech Spec 3.6.A.1. Evaluation  
 determined Tech Specs not violated. Event not reportable.

DISTRIBUTION CODE: A002S      COPIES RECEIVED: LTR 1 ENCL 0 SIZE: 1  
 TITLE: Incident Reports

NOTES:

ACTION:	RECIPIENT	COPIES		RECIPIENT	COPIES	
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	A/D MATL & QU08	1		A/D OP REACT009	1	
	A/D PLANT SYS10	1		A/D RAD PROT 11	1	
	A/D SFTY ASSE12	1		A/D TECHNOLOG13	1	
	ACC. EVAL BR 14	1		AEDD	2	
	ASLBP/J. HARD	1		AUX SYS BR 15	1	
	CHEM ENG BR 16	1		CONT. SYS BR 17	1	
	CORE PERF BR 18	1		D/DIR, HUM FAC19	1	
	DIR, ENGINEER120	1		DIR, HUM FACI S21	1	
	DIR, SYS INTEG22	1		EFF TR SYS BR23	1	
	EQUIP QUALI BR25	1		GEOSCIENCES 26	1	
	I&C SYS BR 29	1		I&E 05	2	
	JORDAN, E./IE	1		LIC GUID BR 30	1	
	LIC QUAL BR 31	1		MATL ENG BR 32	1	
	MECH ENG BR 33	1		MPA	3	
	NRC PDR 02	1		OP EX EVAL BR34	3	
	OR ASSESS BR 35	1		POWER SYS BR 36	1	
	RAD ASSESS BR39	1		REACT SYS BR 40	1	
	<u>REG FILE</u> 01	1		RELI & RISK A 41	1	
	SFTY PRUG EVA42	1		STRUCT ENG BR44	1	
	SYS INTERACI B45	1				
EXTERNAL:	ACRS	46	16	LPDR	03	1
	NSIC	05	1	TERA: DOUG MAY		1

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1980 NOV 25 PM 2 3A

Iowa Electric Light and Power Company

November 19, 1980

DAEC - 80 - 501

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TION SERVICES  
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Mr. James G. Keppler, Director  
Office of Inspection and Enforcement  
Region III  
U.S. Nuclear Regulatory Commission  
Glen Ellyn, IL 60137

Subject: Reclassification of Reportable Occurrence

File: A-118a, TE-4

Dear Mr. Keppler:

On November 11, 1980, a Prompt Notification of a Reportable Occurrence involving a reactor vessel excessive cooldown rate in apparent violation of Technical Specification 3.6.A.1 was reported to your office. Since then our investigation has determined that Technical Specification 3.6.A.1 was not violated. We have thus reevaluated this event and determined that a reportable condition did not exist and accordingly, no further report will be submitted reference specification 3.6.A.1. We regret any inconvenience this might have caused.



Daniel L. Mineck  
Chief Engineer  
Duane Arnold Energy Center

DLM/n

cc: Director, Management Information and Program Control (2)  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

U. S. Nuclear Regulatory Commission  
c/o Document Management Branch  
Washington, D. C. 20555

NRC Resident Inspector

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RECEIVED DISTRIBUTION SERVICES UNIT

50-331

Iowa Electric Light and Power Company  
November 13, 1980  
DAEC-80-499

1980 NOV 24 PM 2 41

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

Subject: Licensee Event Report No. 80-052  
(30 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,

*D. L. Mineck/By*  
Daniel L. Mineck  
Chief Engineer  
Duane Arnold Energy Center

Docket 50-331

attachment

DLM/MSR/pl

cc: Director, Office of Inspection and Enforcement (30)  
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

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NOV 17 1980

# LICENSEE EVENT REPORT

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01 | I | A | O | A | C | I | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 5  
7 8 9 14 15 25 26 30 37 CAT 58

CONT  
01 | REPORT SOURCE | L | 6 | 0 | 5 | 0 | 0 | 0 | 3 | 3 | 1 | 7 | 1 | 0 | 1 | 1 | 5 | 8 | 0 | 3 | 1 | 1 | 1 | 2 | 8 | 0 | 9  
7 8 50 51 58 59 68 69 74 75 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)  
02 | During surveillance testing the alarm which indicates "ADS Core Spray or  
03 | RHR Running" did not clear when initiating signals from RHR pumps were s  
04 | eured. RHR Pump Discharge Pressure Switch (PS-1925B) which provides the  
05 | signal was considered inop. Operability requirements for RHR pump instru  
06 | mentation is outlined in Tech Spec Table 3.2.B. RHR pump affected-1P-229  
07 | D-was kept running during PS 1925D inoperability to ensure system loop r  
08 | eliability. No similar previous occurrences recorded.

09 | SYSTEM CODE | C | F | 11 | CAUSE CODE | E | 12 | CAUSE SUBCODE | E | 13 | COMPONENT CODE | I | N | S | T | R | U | 14 | COMP. SUBCODE | S | 15 | VALVE SUBCODE | 7 | 16  
7 8 9 10 11 12 13 18 19 20  
17 | LER/RO REPORT NUMBER | 8 | 0 | 21 | EVENT YEAR | 8 | 0 | 22 | SEQUENTIAL REPORT NO. | 0 | 5 | 2 | 23 | OCCURRENCE CODE | 0 | 3 | 24 | REPORT TYPE | L | 25 | REVISION NO. | 0 | 26  
7 8 21 22 23 24 25 26 27 28 29 30 31 32  
ACTION TAKEN | B | 18 | FUTURE ACTION | Z | 19 | EFFECT ON PLANT | Z | 20 | SHUTDOWN METHOD | Z | 21 | HOURS | 0 | 0 | 0 | 0 | 22 | ATTACHMENT SUBMITTED | N | 23 | NPRO-4 FORM SUB. | N | 24 | PRIME COMP. SUPPLIER | N | 25 | COMPONENT MANUFACTURER | 5 | 3 | 8 | 2 | 26  
33 34 35 36 37 40 41 42 43 44 47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)  
10 | The microswitch was stuck on PS-1925B causing the alarm function to rema  
11 | in engaged. The microswitch was reset and plunger switch lubricated and  
12 | exercised before PS-1925B was returned to service. PS-1925B is manufac  
13 | tured by Static-0-Ring model SN-AA3-X95TT. The switch was functionally  
14 | tested sat. No further corrective action planned.

15 | FACILITY STATUS | E | 28 | % POWER | 0 | 9 | 9 | 29 | OTHER STATUS | NA | 30 | METHOD OF DISCOVERY | B | 31 | DISCOVERY DESCRIPTION | Surveillance Test | 32  
7 8 9 10 11 12 13 44 45 46 50

16 | ACTIVITY CONTENT | Z | 33 | Z | 34 | AMOUNT OF ACTIVITY | NA | 35 | LOCATION OF RELEASE | NA | 36  
7 8 9 10 11 44 45 50

17 | PERSONNEL EXPOSURES | NUMBER | 0 | 0 | 0 | 37 | TYPE | Z | 38 | DESCRIPTION | NA | 39  
7 8 9 11 12 13 80

18 | PERSONNEL INJURIES | NUMBER | 0 | 0 | 0 | 40 | DESCRIPTION | NA | 41  
7 8 9 11 12 80

19 | LOSS OF OR DAMAGE TO FACILITY | TYPE | Z | 42 | DESCRIPTION | NA | 43  
7 8 9 10 80

20 | PUBLICITY ISSUED | N | 44 | DESCRIPTION | NA | 45  
7 8 9 10 80

50-331

RECEIVED DISTRIBUTION SERVICES UNIT

1980 NOV 24 PM 2 41

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ADH

Iowa Electric Light and Power Company  
November 13, 1980  
DAEC-80-497

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

Subject: Licensee Event Report No. 80-009 (14 day) UPDATE REPORT  
Previous Report  
Date 3-18-80  
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,

*D. L. Mineck / By*  
Daniel L. Mineck  
Chief Engineer  
Duane Arnold Energy Center

Docket 50-331

attachment

DLM/MSR/pl

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

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NOV 17 1980

NRC Resident Inspector - DAEC

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NE ARNOLD ENERGY CENTER  
Iowa Electric Light and Power Company  
LICENSEE EVENT REPORT-Supplemental Data  
Docket No. 050-0331

Licensee Event Update Report Date: 11-12-80

Reportable Occurrence No: 80-009

Event Description

At 0800 hours on March 4, 1980 while performing a refueling outage inspection of the main HPCI pump, a section of split ring was found lodged in the impeller. The HPCI booster pump was disassembled and it was found that both halves of one of the split rings which position the booster pump impeller were missing. The split ring and shaft sleeve spacer are used to position the booster pump impeller. The shaft sleeve spacer (which in turn held the split ring in place) was affixed to the pump shaft with blunt end set screws. The set screws had worked out of the shaft sleeve spacer allowing the shaft sleeve spacer to expand on the pump shaft. The fluid pressure during previous HPCI booster pump operation caused the shaft sleeve spacer to move along the pump shaft uncovering, and thus freeing, the split ring. One half of the split ring was found lodged in the impeller of the main HPCI pump. The missing half of the split ring is a 1/4 inch by 1/4 inch square, semicircular (3-inch inside diameter) ASTM A-276 Type 410 H.T. piece of steel. The split ring/shaft sleeve spacer retainer failure created the potential for the booster pump impeller to thrust and damage itself which would have made the HPCI system inoperable. Reference Technical Specification paragraph 3.5.D.1. The HPCI booster pump, 1P-216, is a Byron Jackson 10 x 10 x 14½, single stage, Type DVS, centrifugal pump. No similar event reports have been submitted.

Cause Description

Improper split ring/shaft sleeve spacer retention device. Thermal expansion allowed the set screws to back out of the shaft sleeve spacer and the shaft sleeve spacer to expand on the HPCI booster pump shaft. The booster pump design is such that the fluid pressure tended to push the shaft sleeve spacer along the pump shaft away from the split ring. Thus the split ring was uncovered and free to move.

Corrective Action

The blunt end set screws used to affix the shaft sleeve spacer to the pump shaft have been replaced with dog point set screws which extend 1/16 inch into holes drilled in the pump shaft. This design change accounts for the thermal expansion of the shaft sleeve spacer and should prevent recurrence of this event. Also review of other Byron Jackson pumps at DAEC indicates that the shaft sleeve spacer is heat shrunk to the pump shaft and that the pump designs are such that the fluid pressure tends to push the shaft sleeve spacer over the split ring. Thus it was concluded that this event is not likely to occur in other Byron Jackson pumps at DAEC.

Efforts to locate the missing section of the HPCI booster pump split ring by radiography have been unsuccessful. An investigation by the NSSS vendor determined that the missing split ring piece poses no hazard to fuel or the proper functioning of any primary components. Further the split ring piece will not compromise any safety feature in place at this facility.

No further corrective action concerning this matter is planned at this time.

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Iowa Electric Light and Power Company

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November 13, 1980

DAEC-80-496

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

Subject: Licensee Event Report No. 79-025 UPDATE REPORT  
(14 day) Previous Report  
Date 10-19-79

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,

*D. L. Mineck / By*

Daniel L. Mineck  
Chief Engineer  
Duane Arnold Energy Center

Docket 50-331

attachment

DLM/MSR/pl

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

U. S. Nuclear Regulatory Commission  
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NRC Resident Inspector - DAEC

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LICENSEE EVENT REPORT

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

01 | I A D A C 1 | 0 0 | - | 0 0 0 0 0 0 | - | 0 0 | 4 1 1 1 1 1 | 4 | 5  
7 8 9 14 15 23 26 37 38 39  
LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT 58

01 | REPORT SOURCE | L | 0 1 5 1 0 1 0 0 3 3 1 | 7 | 0 9 2 7 7 9 | 3 | 1 1 1 1 2 8 0 | 9  
7 8 9 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80  
OCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)  
02 | While performing an inspection of RHR Piping, seismic restraints GBB-23-S  
03 | R-158 and GBB-23-SR-160 and pipe hanger GBB-23-H-152 on the RHR to fuel  
04 | pool line were found not intact. GBB-23-SR-160 repaired on 10/2/79. AF s  
05 | leismic analysis received on 10/5/79 indicated the RHR to fuel pool line  
06 | would remain operable during a DBF if GBB-23-SR-160 was intact. The seis  
07 | mic protection of the LPCI system was compromised during the period GBB-  
08 | 23-SR-160 was out of service. Reference T.S. 3.5.A.3. See also RD 77-029  
7 8 9 30

09 | SYSTEM CODE | C I F | 11 | CAUSE CODE | X | 12 | CAUSE SUBCODE | Z | 13 | COMPONENT CODE | S U I P O R T | 14 | COMP. SUBCODE | X | 15 | VALVE SUBCODE | Z | 16  
7 8 9 10 11 12 13 14 15 16 17 18 19 20  
LER/RO REPORT NUMBER | EVENT YEAR | 7 | 9 | SEQUENTIAL REPORT NO. | 0 | 2 | 5 | OCCURRENCE CODE | 0 | 1 | REPORT TYPE | X | REVISION NO. | 1 |  
21 22 23 24 25 26 27 28 29 30 31 32  
ACTION TAKEN | F | 18 | FUTURE ACTION | Z | 19 | EFFECT ON PLANT | Z | 20 | SHUTDOWN METHOD | Z | 21 | HOURS | 0 | 0 | 0 | 0 | ATTACHMENT SUBMITTED | Y | 23 | NPRO-4 FORM SUB. | N | 24 | PRIME COMP. SUPPLIER | A | 25 | COMPONENT MANUFACTURER | S | 2 | 8 | 0 | 25  
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47  
CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 | The restraint damage was apparently caused by a water hammer. As noted a  
11 | bove GBB-23-160 was repaired on 10/2/79. A UT exam conducted on 16 of 22  
12 | pipe welds verified the integrity of the line was not degraded. A design  
13 | change has been developed to install a valve to segregate the affected l  
14 | ine from the RHR System.  
7 8 9 30

15 | FACILITY STATUS | F | 28 | % POWER | 0 | 4 | 4 | 29 | OTHER STATUS | NA | 30 | METHOD OF DISCOVERY | C | 31 | DISCOVERY DESCRIPTION | Special Inspection | 32  
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

16 | ACTIVITY CONTENT RELEASED OF RELEASE | Z | 33 | Z | 34 | AMOUNT OF ACTIVITY | NA | 35 | LOCATION OF RELEASE | NA | 36  
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

17 | PERSONNEL EXPOSURES NUMBER | 0 | 0 | 0 | 37 | TYPE | Z | 38 | DESCRIPTION | NA | 39  
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

18 | PERSONNEL INJURIES NUMBER | 0 | 0 | 0 | 40 | DESCRIPTION | NA | 41  
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

19 | LOSS OF OR DAMAGE TO FACILITY TYPE | Z | 42 | DESCRIPTION | NA | 43  
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

20 | PUBLICITY ISSUED DESCRIPTION | N | 44 | DESCRIPTION | NA | 45  
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30  
NRC USE ONLY

NAME OF PREPARER Matthew S. Rager PHONE: 319-851-5611

DUANE ARNOLD ENERGY CENTER  
Iowa Electric Light and Power Company  
LICENSEE EVENT REPORT-Supplemental Data  
Docket No. 050-0331

Licensee Event Update Report Date: 11-12-80

Reportable Occurrence No: 79-025

EVENT DESCRIPTION

While performing an inspection of RHR piping on September 27, 1979 seismic restraints GBB-23-SR-158 and GBB-23-SR-160 and pipe hanger GBB-23-H-152 on the RHR to fuel pool line were found not intact. An architect engineer seismic analysis was begun on September 28, 1979 to determine if this line would remain operable during a DBE with these restraints out of service. Subsequently, seismic restraint GBB-23-SR-160 was restored to its original configuration on October 2, 1979. The seismic analysis was completed on October 5, 1979 and the results indicated the RHR to fuel pool line would remain operable with GBB-23-SR-160 intact. This occurrence thus compromised the seismic protection of the LPCI system during the period GBB-23-SR-160 was out of service. Reference Technical Specification Paragraph 3.5.A.3. See also RO Report 77-029.

CAUSE DESCRIPTION

The restraint damage was apparently caused by a water hammer.

CORRECTIVE ACTION

As noted above GBB-23-SR-160 was restored to its original configuration on October 2, 1979. A UT examination was conducted on 16 of 22 of the welds on the RHR to fuel pool line. This examination verified that the integrity of the line was not degraded. A design change has been developed to install an additional valve such that this RHR to fuel pool line will be segregated from the balance of the RHR system. This will eliminate the potential for recurrence of the water hammer problem.

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Iowa Electric Light and Power Company

1980 NOV 24 PM 2 41

November 13, 1980  
DAEC-80-498

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

Subject: Licensee Event Report No. 80-051  
(30 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,

*D.L. Mineck /Buy*  
Daniel L. Mineck  
Chief Engineer  
Duane Arnold Energy Center

Docket 50-331

attachment

DLM/MSR/pl

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U. S. Nuclear Regulatory Commission  
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NRC Resident Inspector - DAEC

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