

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9009050290 DOC. DATE: 90/08/29 NOTARIZED: NO DOCKET #  
 FACIL: 50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331  
 AUTH. NAME AUTHOR AFFILIATION  
 SMITH, B.K. Iowa Electric Light & Power Co.  
 HANNEN, R.L. Iowa Electric Light & Power Co.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-009-00: on 900730, inadequate fire barrier seal.

W/9 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

### NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD3-3 LA	1 1	PD3-3 PD	1 1
	HALL, J.R.	1 1		
INTERNAL:	ACNW	2 2	ACRS	2 2
	AEOD/DOA	1 1	AEOD/DSP/TPAB	1 1
	AEOD/ROAB/DSP	2 2	NRR/DET/ECMB 9H	1 1
	NRR/DET/EMEB9H3	1 1	NRR/DLPQ/LHFB11	1 1
	NRR/DLPQ/LPEB10	1 1	NRR/DOEA/OEAB11	1 1
	NRR/DREP/PRPB11	2 2	NRR/DST/SELB 8D	1 1
	NRR/DST/SICB 7E	1 1	NRR/DST/SPLB8D1	1 1
	NRR/DST/SRXB 8E	1 1	<del>REG. FILE</del> 02	1 1
	RES/DSIR/EIB	1 1	RGN3 FILE 01	1 1
EXTERNAL:	EG&G BRYCE, J.H	3 3	L ST LOBBY WARD	1 1
	NRC PDR	1 1	NSIC MAYS, G	1 1
	NSIC MURPHY, G.A	1 1	NUDOCS FULL TXT	1 1

AO-4

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,  
 ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION  
 LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED  
 TOTAL NUMBER OF COPIES REQUIRED: LTTR 33 ENCL 33

DED

Iowa Electric Light and Power Company

August 29, 1990  
DAEC-90-0678

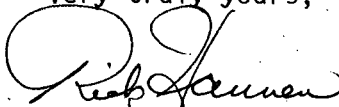
Mr. A. Bert Davis  
Regional Administrator  
Region III  
U. S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, IL 60137

Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Op. License DPR-49  
Licensee Event Report #90-009

Gentlemen:

In accordance with 10 CFR 50.73 please find attached a copy of the subject  
Licensee Event Report.

Very truly yours,

 8-29-90

Rick L. Hannen  
Plant Superintendent - Nuclear

RLH/BKS/pl

cc: Director of Nuclear Reactor Regulation  
Document Control Desk  
U.S. Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, D. C. 20555

NRC Resident Inspector - DAEC

Dr. William R. Jacobs, Jr.  
GDS Associates, Inc.  
Suite 720  
1850 Parkway Place  
Marietta, GA 30068-8237

File A-118a

00001

4pp

TE22  
11  
AUG 31 1990

FEQ1

## LICENSEE EVENT REPORT (LER)

EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50 0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)

Duane Arnold Energy Center

DOCKET NUMBER (2)

0 5 0 0 0 3 3 1

PAGE (3)

1 OF 0 3

TITLE (4)

Inadequate Fire Barrier Seal

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)
0	7	3	0	9	0	9	0	8	None		0 5 0 0 0
0	7	3	0	9	0	9	0	8			0 5 0 0 0

OPERATING MODE (9)

N

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)

POWER LEVEL (10)	20.402(b)	20.408(a)(1)(i)	20.408(a)(1)(ii)	20.408(a)(1)(iii)	20.408(a)(1)(iv)	20.408(a)(1)(v)	20.408(c)	50.38(c)(1)	50.38(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vi)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(ix)	73.71(b)	73.71(c)	OTHER (Specify in Abstract below and in Text NRC Form 366A)
0 0 0																						
									X													

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Brian K. Smith, Technical Support Specialist	3 1 9 8 5 1 - 7 4 5 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
B	I	C	S	E	A	L			N

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	X				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

With the plant shutdown in a refueling outage, work was in progress on a Design Change Package involving positive pressure modifications to the Control Building Heating, Ventilation, and Air Conditioning System. During testing, personnel identified air leakage from the Control Room to the Cable Spreading Room and conduit chase around the fire barrier seal in the "seismic gap" between the buildings. Investigation determined the barrier seal did not meet the requirements of 10 CFR 50 Appendix R. The seal was replaced in accordance with 10 CFR 50 Appendix R.

This event is being reported pursuant to 10 CFR 50.73 (a)(2)(i).

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER(6)			PAGE(3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Duane Arnold Energy Center	05000331	90	- 009	- 00	2	OF	3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

**I. DESCRIPTION OF EVENT:**

With the plant shutdown in a refueling outage, work was in progress on a Design Change Package involving the Control Building Heating, Ventilation, and Air Conditioning (HVAC) System (EIIS System Code VI) in the Control Room (EIIS System Code NA). This work would make the necessary modifications to meet regulatory standards for maintaining a positive pressure in the Control Room. During testing, personnel identified air leakage from the Control Room into the Cable Spreading Room (EIIS System Code FA) and conduit chase below. The leakage was via the "seismic gap" (provides for building movement during a potential seismic event) between the Control Building and the Reactor Building (EIIS System Code NG). A Fire Protection System (EIIS System Code KP) fire barrier seal (EIIS Component Code SEAL) was installed in the gap. Investigation of the barrier determined that it did not meet the requirements of 10 CFR 50 Appendix R.

**II. CAUSE OF EVENT:**

Investigation into the cause of the inadequate fire barrier seal determined that it had been in place since construction (prior to issuance of 10 CFR 50 Appendix R). It was determined that the barrier met requirements in effect at the time of construction.

Following the issuance of 10 CFR 50 Appendix R, inspections were performed to assess the plant Fire Protection Program. These included inspecting and verifying barrier seals. Also, a surveillance was established to periodically assess fire barrier seals. Apparently, this barrier seal was inadvertently missed by the inspections and the surveillance.

**III. ANALYSIS OF EVENT:**

Technical Specifications state that all fire barrier penetration seals protecting safety related areas shall be intact. 10 CFR 50 Appendix R requires a separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a 3-hour rating. The existing barrier was constructed of pre-fabricated foam-board inserted into the "seismic gap" and sealed with a silicon sealing compound. Over time, the barrier sealing compound had contracted slightly which allowed for the air leakage past the barrier. This type of barrier is generally acceptable but not as a 3-hour rated barrier seal. Both the Control Room and the Cable Spreading Room are monitored by the Fire Detection

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)  Duane Arnold Energy Center	DOCKET NUMBER (2)  05000331	LER NUMBER(6)			PAGE(3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		90	-009	-00	3	OF	3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Subsystem (EIIS System Code IC). The Cable Spreading Room is also protected by an automatic carbon dioxide (CO<sub>2</sub>) Fire Suppression System (EIIS System Code KQ).

Analysis of the remaining "seismic gap" fire barrier seals determined that none of the others were required to be 3-hour rated barriers and were deemed acceptable.

**IV. CORRECTIVE ACTIONS**

Upon identifying the seal as inadequate, the required Fire Watch was established. Actions were initiated to correct the inadequacy. The existing barrier seal between the Control Room and Cable Spreading Room was completely removed and replaced. The barrier seal between the Cable Spreading Room and conduit chase was also replaced. The new barrier fully satisfies the 10 CFR 50 Appendix R requirements for a 3-hour rated barrier. Also, this barrier seal has been included in the periodic surveillance.

**V. ADDITIONAL INFORMATION**

A review of Licensee Event Reports revealed no previous events of this type, where the existing fire barrier seal was not capable of providing a 3-hour rated barrier.

This event is being reported pursuant to 10 CFR 50.73 (a)(2)(i).