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AUTH.NAME AUTHOR AFFILIATION
AXLINE,J.S. Iowa Electric Light & Power Co.
HANNEN,R.L. Iowa Electric Light & Power Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-030-00:on 871215,actuation of standby filter unit due to downscale trip of radiation monitor.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 W/8 ENCL 1 ltr. SIZE: 4
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	PD3-1 LA	1	1	PD3-1 PD	1	1
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INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1
	ARM/DCTS/DAB	1	1	DEDRO	1	1
	NRR/DEST/ADS	1	0	NRR/DEST/CEB	1	1
	NRR/DEST/ELB	1	1	NRR/DEST/ICSB	1	1
	NRR/DEST/MEB	1	1	NRR/DEST/MTB	1	1
	NRR/DEST/PSB	1	1	NRR/DEST/RSB	1	1
	NRR/DEST/SGB	1	1	NRR/DLPQ/HFB	1	1
	NRR/DLPQ/QAB	1	1	NRR/DOEA/EAB	1	1
	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2
	NRR/DRIS/SIB	1	1	NRR/PMAS/ILRB	1	1
	REG FILE 02	1	1	RES DEPY GI	1	1
	RES TELFORD,J	1	1	RES/DE/EIB	1	1
	RGN3 FILE 01	1	1			
EXTERNAL:	EG&G GROH,M	5	5	FORD BLDG HOY,A	1	1
	H ST LOBBY WARD	1	1	LPDR	1	1
	NRC PDR	1	1	NSIC HARRIS,J	1	1
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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Duane Arnold Energy Center (DAEC)	0 5 0 0 0 3 3 1	1 OF 0 3

TITLE (4)

Actuation of Standby Filter Unit Due to Downscale Trip of Radiation Monitor

EVENT DATE (5)			LER NUMBER (8)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR		SEQUENTIAL NUMBER		REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
1 2	1 5	8 7	8 7	—	0 3 0	—	0 0	1 2	2 2	8 7	None	0 5 0 0 0
												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)	1 0 0	20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
Jeff S. Axline, Technical Support Engineer	3 1 9 8 5 1 - 7 6 0 0

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
B	I L	R I S	N 3 0 5	NO					

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

On December 15, 1987, at 0013 hours the plant was operating at 100% power when the control building ventilation isolated and the 'A' control building Standby Filter Unit (SFU) initiated unexpectedly. Investigation of the trip revealed that it had occurred due to a downscale signal being received by the 'A' control building air intake radiation monitor. The cause of the downscale signal is suspected to be a temporary malfunction in the artificial background source. This suspicion could not be verified, though, due to the monitor becoming operable before maintenance could be performed.

Immediate corrective actions were to determine the source of the initiation signal and verify automatic functions. Later in the day the monitor's calibration procedure was performed and there was no indication of the unit being out of calibration in a way which could have caused the downscale trip.

Due to the conservative nature of this trip there was no affect on the safe operation of the plant.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Duane Arnold Energy Center (DAEC)	0 5 0 0 0 3 3 1	8 7	— 0 3 0	— 0 0	0 2 OF 0 3

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

I. DESCRIPTION OF EVENT:

On December 15, 1987, at 0013 hours, the plant was operating at 100% power when the control building ventilation isolated and the 'A' control building Standby Filter Unit (SFU) (EIIS System Code VI) initiated unexpectedly. Investigation of the trip revealed that it had occurred due to a downscale signal being received by the 'A' control building air intake radiation monitor (IL-RIS, DAEC RIM6101A). The 'B' monitor indicated normally throughout the event. The downscale trip cleared itself a few hours later.

II. CAUSE OF EVENT:

The cause of this event was a signal from the control building air intake radiation element which corresponded to a low radiation level. This low level fell below the downscale trip point of RIM-6101A thus resulting in control building ventilation isolation and initiation of the 'A' SFU. It is suspected that the artificial background source in the detector temporarily malfunctioned allowing indicated background radiation levels to fall below the downscale trip point. This suspicion could not be verified, though, due to the instrument becoming operable before maintenance was performed. (The artificial background source is used in conjunction with natural background radiation to provide a high enough indicated radiation level to keep the downscale trip point from being reached during normal operation.)

III. ANALYSIS OF EVENT:

This event had no affect on the safe operation of the plant. The control building isolated and the SFU initiated as designed in response to the low radiation level signal. Had this event occurred under different plant conditions, the affect on the safe operation of the plant would have been the same.

IV. CORRECTIVE ACTION:

Immediate corrective actions were to determine the source of the initiation signal and verify automatic functions. Following verification, it was decided that the control building would remain isolated with the SFU in service until the initiation circuitry could be determined operable via maintenance and testing. This allowed continued plant operation without entering a Limiting Condition for Operation (LCO).

Later in the day when maintenance was started, the radiation monitor was found to be indicating normally. The monitor's calibration procedure was performed and there was no indication of the unit being out of calibration in a way which could have caused the downscale trip. Following maintenance, the radiation monitor was declared operable at

1515 hours on December 15, 1987. The control building was then unisolated and the SFU reset. Due to the results of the calibration along with the fact that the type of malfunction which occurred results in a conservative actuation of a safety system, no further corrective actions are considered necessary.

V. ADDITIONAL INFORMATION

After searching plant records, it was determined that similar incidents involving spurious or downscale trips of the control building air intake radiation monitors have occurred in the past (See LERs 84-020, 84-032, 85-047, 87-002). LERs 84-020, 84-032, and 85-047 occurred with Nuclear Measurements Corp. model GA-2TO monitors installed. These monitors were located at the inlet of the control building air intake. It was determined that a majority of the problems with these monitors were due to their location. (Trips usually occurred during stormy weather). In November 1986, these monitors were replaced with newer models (Nuclear Measurements Corp. model GA-6M) and relocated to an area of the control building air intake which is better protected from the weather. The trip which occurred in LER 87-002 was determined to be an inadequate downscale trip setpoint.

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

Iowa Electric Light and Power Company
December 22, 1987
DAEC-87-1244

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License DPR-49
Licensee Event Report #87-030

Gentlemen:

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

Very truly yours,

Rick L. Hannen 12/22/87

Rick L. Hannen
Plant Superintendent - Nuclear

RLH/JSA/go

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

NRC Resident Inspector - DAEC

File A-118a

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