

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8704220375 DOC. DATE: 87/04/17 NOTARIZED: NO DOCKET #
 FACIL: 50-331 Duane Arnold Energy Center, Iowa Electric Light & Power 05000331
 AUTH. NAME AUTHOR AFFILIATION
 PROBST, J. R. Iowa Electric Light & Power Co.
 MINECK, D. L. Iowa Electric Light & Power Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-006-00: on 870318, automatic initiation of standby filter unit (SFU) A & isolation of control bldg ventilation sys occurred. Caused by downscale signal from control bldg air inlet radiation monitor. SFU A reset. W/870417 ltr.

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

NOTES:

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INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	1	1
	AEOD/DOA	1	1	AEOD/DSP/ROAB	2	2
	AEOD/DSP/TPAB	1	1	NRR/ADT	1	1
	NRR/DEST/ADE	1	0	NRR/DEST/ADS	1	0
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	NRR/DEST/RSB	1	1	NRR/DEST/SGB	1	1
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	NRR/DOEA/EAB	1	1	NRR/DREP/EPB	1	1
	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2
	NRR/PMAS/ILRB	1	1	NRR/PMAS/PTSB	1	1
	<u>REG FILE</u> 02	1	1	RES SPEIS, T	1	1
	RGN3 FILE 01	1	1			
EXTERNAL:	EG&G GROH, M	5	5	H ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC HARRIS, J	1	1	NSIC MAYS, G	1	1

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Duane Arnold Energy Center (DAEC)	DOCKET NUMBER (2) 0 5 0 0 0 3 3 1 1	PAGE (3) 1 OF 0 3
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TITLE (4)
Standby Filter Unit Initiation Due to a Momentary Instrument AC Bus Power Fluctuation

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 3	1 8	8 7	8 7	0 0 6	0 0	0 4	1 7	8 7	None		0 5 0 0 0

OPERATING MODES (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 1 0 1 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.408(a)	<input checked="" type="checkbox"/> 20.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.408(a)(1)(i)	<input type="checkbox"/> 60.38(a)(1)	<input type="checkbox"/> 60.73(a)(2)(v)	<input type="checkbox"/> 73.71(a)						
	<input type="checkbox"/> 20.408(a)(1)(ii)	<input type="checkbox"/> 60.38(a)(2)	<input type="checkbox"/> 20.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 368A)						
	<input type="checkbox"/> 20.408(a)(1)(iii)	<input type="checkbox"/> 60.73(a)(2)(i)	<input type="checkbox"/> 60.73(a)(2)(vii)(A)							
	<input type="checkbox"/> 20.408(a)(1)(iv)	<input type="checkbox"/> 20.73(a)(2)(ii)	<input type="checkbox"/> 20.73(a)(2)(vii)(B)							
	<input type="checkbox"/> 20.408(a)(1)(v)	<input type="checkbox"/> 60.73(a)(2)(iii)	<input type="checkbox"/> 60.73(a)(2)(iii)							

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME James R. Probst, Technical Support Engineer		AREA CODE 3 1 1 9	8 1 5 1 1 - 1 7 1 3 1 0 1 8

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
X	FID	PILL	J101015	YES					

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO					

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

On March 18, 1987, with the reactor in cold shutdown for a refueling outage, an automatic initiation of the "A" Standby Filter Unit (SFU) and isolation of the Control Building Ventilation System occurred. The cause of the initiation was a downscale signal from the Control Building air inlet radiation monitor. This was the result of a voltage fluctuation on the Instrument AC bus supplying the monitor's power. The root cause of this fluctuation is unknown. The Instrument AC bus has no history of problems or transient fluctuations, and no activities in progress at the time which could have resulted in such a problem were identified. The most probable cause of the fluctuations are inadvertent, momentary bus grounds which may have occurred during the extensive outage work on equipment supplied by the bus. The "A" SFU was reset approximately fifteen minutes after the initiation.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 7	- 0 0 6	- 0 0	0 2	OF 0 3

TEXT (If more space is required, use additional NRC Form 388A's) (17)

On March 18, 1987 at 1737 hours, with the reactor in cold shutdown for a refueling outage, an automatic initiation of the "A" Standby Filter Unit (SFU, EIIS System VI) and isolation of the Control Building ventilation system occurred. Numerous and varied annunciators were noted by the Control Room staff to be indicating a short duration trip and reset. The Reactor Water Cleanup System (RWCU, EIIS System CE) filter demineralizer automatically went into "hold" mode. A second short duration trip and reset of the same annunciators occurred approximately thirty seconds later. Control room personnel estimate the two incidents were each approximately one to two seconds in length. Immediately following the incidents, investigation revealed the SFU initiation and the various annunciators were unwarranted. The cause of the initiation was a downscale signal from the Control Building air inlet radiation monitor (IL-RIS-6101A). The intermediate cause was determined to be a transient on the Instrument AC bus (EIIS System Code ED) which supplies power to the air inlet radiation monitor and the wide variety of instrumentation involved in the activation of the various annunciators. This bus originates at panel 1Y11 (ED-PL-1Y011). Panel 1Y11 and the Motor Control Center from which it obtains its source power are located in the 'A' Essential Switchgear Room. Soon after the event an Operator was dispatched to this room to investigate. No apparent cause for the transients observed on 1Y11 was found. The 'A' Standby Filter Unit was reset at 1753 hours the same day.

Instrument AC panel 1Y11 does not have a history of problems or transient fluctuation. Workers in the Essential Switchgear Room and the Operator dispatched to the room at the time of the incident indicated no activities were observed which would have affected the operability of 1Y11. The most probable cause of the fluctuations are inadvertent, momentary bus grounds which may have occurred during the extensive outage work on equipment supplied by the bus. The root cause of the 1Y11 voltage fluctuation on March 18, 1987 is unknown.

The Instrument AC Control Power System consists of two independently powered busses from panels 1Y11 and 1Y21. These supply 120/240 volt a.c. power for control and instrumentation. Many loads are separated among the two panels for greater redundancy. This is not a Safety-Related System and is not required for safe shutdown. Loss of an Instrument AC panel results in closure of an Off-Gas System (WF) discharge valve, locks the speed of one of the two Recirculation Pumps, and removes one of the two High Pressure Coolant Injection System (BJ) Steam Leak Detection (JM) sub-systems from service. It also causes numerous Area Radiation Monitors to fail downscale, as well as the initiation of one of the two redundant Standby Filter Units. A momentary voltage fluctuation on an Instrument AC Bus can result in the RWCU system being placed in hold if operating due to loss of instrumentation, and a system isolation if the condition remains after one second.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Duane Arnold Energy Center	DOCKET NUMBER (2) 0 5 0 0 0 3 3 1 8 7	LER NUMBER (5)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		87	006	00	03	OF 03

TEXT (If more space is required, use additional NRC Form 388A's) (17)

The Control Building ventilation system will isolate the building from the normal outside air intake and recirculate the ventilation air through the essential switchgear rooms, battery rooms and the control room on inlet air high radiation or downscale, or low inlet air temperature. The safety-related function of the SFU's and Control Building isolation is to minimize operator radiation exposure by filtration of the make-up outside air being provided in place of full flow make-up. In addition, the system supplies treated make-up air through the Standby Filter Units to balance the exhaust of the battery rooms. This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv) as an unexpected automatic actuation of an Engineered Safety Feature.

Iowa Electric Light and Power Company

April 17, 1987
DAEC-87-0390

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 No. 87-006

Gentlemen:

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

Very truly yours,



Daniel L. Mineck
Plant Superintendent - Nuclear

DLM/JRP/pl

Attachment - LER 87-006

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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