

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8711240313 DOC. DATE: 87/11/18 NOTARIZED: NO DOCKET #
 FACIL: 50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331
 AUTH. NAME AUTHOR AFFILIATION
 THOMAS, B. N. Iowa Electric Light & Power Co.
 HANNEN, R. L. Iowa Electric Light & Power Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-026-00: on 871019 reactor water cleanup (RWCU) sys
 isolation occurred on signal from RWCU nonregenerative hx.
 outlet temp indicating switch. Caused by switch reaching end
 of life use. Switch replaced. W/871118 ltr.

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

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL		RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	
	PD3-1 LA	1	1	PD3-1 PD	1	1
	CAPPUCCI, A	1	1			
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAD	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/PGB	1	1	NRR/DEST/RSB	1	1
	NRR/DEST/SGB	1	1	NRR/DLPG/HFB	1	1
	NRR/DLPG/GAB	1	1	NRR/DDEA/EAB	1	1
	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2
	NRR/DRIS/SIB	1	1	NRR/PMAS/ILRB	1	1
	<u>REG FILE</u> 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	H ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC HARRIS, J	1	1	NSIC MAYS, G	1	1

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Duane Arnold Energy Center (DAEC)	DOCKET NUMBER (2) 0 5 0 0 0 3 3 1	PAGE (3) 1 OF 0 3
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TITLE (4)
RWCU Isolation Due to a Temperature Switch Reaching its End-of-Life Use

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)
									None		0 5 0 0 0
1	0	1	9	8	7	8	7	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) 0 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)

NAME Bradford N. Thomas, Technical Support Engineer	TELEPHONE NUMBER
	AREA CODE: 3 1 9 NUMBER: 8 5 1 1 - 7 3 0 9

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS
X	C/E	T/IS	F/081	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (18)

On October 19, 1987 with the plant in cold shutdown, a Reactor Water Cleanup (RWCU) System isolation occurred on a signal from the RWCU non-regenerative heat exchanger outlet temperature indicating switch. The temperature switch setpoint was found to have drifted conservatively low.

The root cause was determined to be that the switch had reached its end-of-life use.

This same temperature switch was responsible for two RWCU isolations in July, 1987. A new switch was ordered in early 1987 due to previous setpoint drifting problems. This switch arrived on-site in August, 1987.

Operations personnel returned the RWCU system to service later in the day after the switch was electrically removed from the isolation circuit. The new switch was installed and tested on October 21, 1987.

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

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

I. DESCRIPTION OF EVENT:

On October 19, 1987 at 0622 hours with the plant in cold shutdown, the Reactor Water Cleanup (RWCU) System (EIS System Identifier CE) isolated on a RWCU non-regenerative heat exchanger high outlet temperature signal. The RWCU outboard isolation valve MO2701 (CE-ISV), and RWCU return to feedwater isolation valve MO2740 (CE-ISV) isolated as designed. The isolation signal was received from temperature switch TIS2722 (CE-TIS, Fenwal Inc. Model No. 56100-1). Post-event investigation revealed that the isolation setpoint of TIS2722 (140 degrees Fahrenheit) had conservatively drifted downward. The isolation was received with TIS2722 reading approximately 60 degrees Fahrenheit.

This same temperature switch (TIS2722) was responsible for two RWCU system isolations in July, 1987 as reported in LER 87-024.

II. CAUSE OF EVENT:

The root cause of the temperature switch setpoint drifting low is determined to be equipment reaching its designed end-of-life use. This temperature switch had a recent trend of setpoint drift, spurious actuation when returning to service, and difficulty in calibration (See LER 87-024).

III. ANALYSIS OF EVENT:

This unexpected isolation of the RWCU system had no adverse affect on the safe operation of the plant. The isolation feature provided by TIS2722 is an operational isolation and not an engineering safety function. This operational isolation feature does however cause a RWCU isolation, which is an actuation of an engineered safety feature. The isolation feature provided by TIS2722 prevents the RWCU filter demineralizers from reaching elevated temperatures. These elevated temperatures reduce the efficiency of the demineralizers, causing more frequent resin bed changeout.

IV. CORRECTIVE ACTION:

After it was determined this switch was not needed for the safe operation of the RWCU system, the switch was electrically removed from the isolation circuit using the jumper and lifted lead process. The RWCU system was then returned to service at 0937 hours on October 19, 1987.

A new temperature switch which was ordered in early 1987 due to previous setpoint drifting problems, arrived on-site in August, 1987 and was installed and tested on October 21, 1987.

The other two Fenwal Model 56100-1 temperature switches on-site (RWCU pump cooling water) will have their Preventive Maintenance (calibration) schedules changed from every four years to yearly to better trend their performance.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

V. ADDITIONAL INFORMATION

A. Failed Component Identification:

The failed component was a Fenwal Temperature switch (TIS) Model No. 56100-1.

B. Previous Similar Events:

LER 87-024 dated 8-24-87 documents the only other RWCU isolations caused by TIS2722 setpoint drifting.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv).

Iowa Electric Light and Power Company

November 18, 1987
DAEC-87-1119

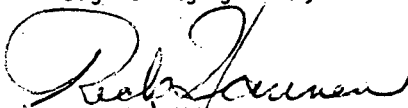
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Subject: Duane Arnold Energy Center
Docket No. 50-331
Op. License DPR-49
Licensee Event Report No. 87-028

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 11-18-87
Plant Superintendent - Nuclear

RLH/BNT/go

Attachment - LER 87-028

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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11