

50-331

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FILE NUMBER
INCIDENT REPORT

TO: Mr. J. G. Keppler

FROM: Iowa Elec Light & Power Co
Cedar Rapids, Iowa 52406
E.L. Hammond

DATE OF DOCUMENT

3-3-77

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3-22-77

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PLANT NAME: Duane Arnold Plant

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ENCLOSURE Update report for AO-74-48, 74-51 & 74-52 with attachment A entitled "~~XXXXXX~~ Summary of LPCI Loop Select Abnormal/Reportable Occurrences....1P

(1 cy encl rem)

NOTE: IF PERSONNEL EXPOSURE IS INVOLVED SEND DIRECTLY TO KREGER/J. COLLINS

FOR ACTION/INFORMATION

BRANCH CHIEF:	<i>Leav</i>
W/3 CYS FOR ACTION	
LIC. ASST.:	<i>Parrish</i>
W/1 CYS	
ACRS	<i>16 CYS HOLDING/SENT AS CAT B</i>

INTERNAL DISTRIBUTION

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EXTERNAL DISTRIBUTION

LPDR: *Cedar Rapids, Ia*
TIC:
NSIC:

CONTROL NUMBER

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D. K. ...

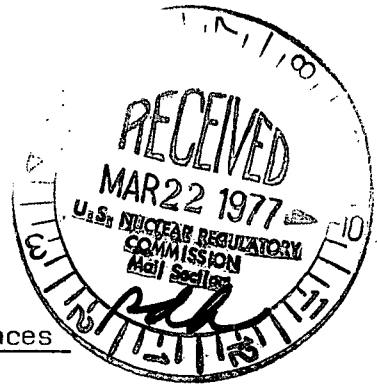
IOWA ELECTRIC LIGHT AND POWER COMPANY

DUANE ARNOLD ENERGY CENTER
P. O. Box 351
Cedar Rapids, Iowa 52406
March 3, 1977
DAEC-77 - 150

50-331

REGULATORY DOCKET FILE COPY

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



Subject: Update Report for Abnormal Occurrences
74-48, 74-51, and 74-52

File: A-118a

Dear Mr. Keppler:

Since initial plant operation, the Duane Arnold Energy Center has experienced repeated problems with malfunctioning and/or out-of-calibration LPCI Loop Selection Logic pressure differential indicating switches. The problem was initially reported to your office via Abnormal Occurrence Reports 74-48, 51 and 52. Per Mr. C. Feierabend of your office, separate abnormal/reportable occurrence reports have not been submitted for the approximately 16 instances of LPCI Loop Selection pressure differential indicating switch problems that have occurred since Abnormal Occurrence 74-52. A summary of the occurrences has been attached. This letter is to advise you that investigations by the NSSS vendor and the Licensee's Engineering department have been completed and that corrective actions have been initiated which should alleviate the problem with the switches.

As previously reported, the malfunction and/or out-of-calibration condition of the pressure differential indicating switches was the result of excessive cycling during normal plant operation. The pressure differential between the recirculation loop risers continually varies during plant operation with resultant setpoint drift and deterioration of sensor contacts.

After extensive evaluation by the NSSS vendor and the Licensee's Engineering Department, it was concluded that the installation of instrument snubbers in the pressure sensing lines would reduce the cycling of the pressure differential indicating switches during normal operation. Evaluation of the corrective

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action included a study of the pressure differential generated across the recirculation risers versus time. The response times of the instrument lines, the snubber and the instrument were evaluated and included in the analysis to determine the allowable time delay. Based on this evaluation it was determined that the allowable time delay would be two seconds.

Installation of the snubbers (Republic Model 6011 - 1/4 SS) and functional testing has now been completed. The maximum response time delay with the installed snubbers is one second.

This letter should complete all reporting requirements relative to the subject abnormal occurrences. If you have any further questions, please contact this office.

Very truly yours,



Ellery L. Hammond
Chief Engineer
Duane Arnold Energy Center

ELH/DLW/mg
attachment

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
Washin-ton, D.C. 20555

Attachment A

Summary of LPCI Loop Select Abnormal/Reportable Occurrences

<u>Occurrence Date</u>	<u>Description</u>
December 19, 1974	PDIS 4642 Out-of-calibration
December 31, 1974	PDIS 4642 Out-of-calibration
	PDIS 4644 & 4643 Failed
January 17, 1975	PDIS 4644
March 12, 1975	PDIS 4644 Out-of-calibration
March 31, 1975	PDIS 4644 Failed micro-switch
May 15, 1975	PDIS 4644 & 4642 Out-of-calibration
August 13, 1975	PDIS 4642 Out-of-calibration
September 8, 1975	PDIS 4642 Out-of-calibration
November 14, 1975	PDIS 4644 Out-of-calibration
January 12, 1976	PDIS 4643 Out-of-calibration
February 11, 1976	PDIS 4644 Failed micro-switch
September 30, 1976	PDIS 4643 Failed micro-switch
November 10, 1976	PDIS 4644 Out-of-calibration
December 13, 1976	PDIS 4643 & 4644 Out-of-calibration
January 14, 1977	PDIS 4643 Out-of-calibration
January 19, 1977	PDIS 4644 Failed micro-switch