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Mr. James G. Keppler	1--signed			xxxxxx	xxxxx

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DESCRIPTION:

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PLANT NAME: Duane Arnold Unit #1

ENCLOSURES:

Abnormal Occurrence #74-53 on 12-22-74 concerning loss of control to HPCI - CST Isolation Valve (MOV 2300),.....

FOR ACTION/INFORMATION 1-9-75 JGB

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IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

CEDAR RAPIDS, IOWA

DUANE ARNOLD ENERGY CENTER
PALO, IOWA
DECEMBER 31, 1974
DAEC - 74 - 428

Regulatory File Cy.

Mr. James G. Keppler, Director
Regulatory Operations Regional Office
U. S. Atomic Energy Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

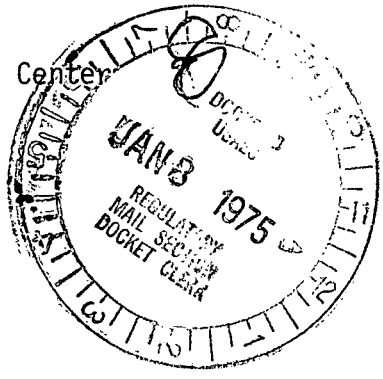
SUBJECT: Abnormal Occurrence No. DPR 50-331/74-53
FILE: A-118a
A-110

Dear Mr. Keppler:

In accordance with Appendix A to Operating License DPR-49, Technical Specifications and Bases for Duane Arnold Energy Center, please find enclosed a written report on the subject abnormal occurrence.

Very truly yours,

G. G. Hunt
Chief Engineer
Duane Arnold Energy Center



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JAN 3 1975

IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

CEDAR RAPIDS, IOWA

Subject: Abnormal Occurrence

Report Number: A. O. 50-331/74-53

Report Date: December 31, 1974

Occurrence Date: December 22, 1974

Facility: Duane Arnold Energy Center, Unit #1, Palo, Iowa

Identification of Occurrence

Loss of control power to HPCI-CST Isolation Valve (MOV 2300), reportable in accordance with Appendix A, Operating License DPR-49, Specification 1.0.4.d.

Conditions Prior to Occurrence

Reactor at steady-state power conditions, 1131 MW Thermal.

Description of Occurrence

While performing routine panel checks, the Reactor Operator observed that the indicating lights for MOV 2300 were not functional. Further investigation revealed the loss of 125 VDC control power to MOV 2300 (MOV 2300 was in the normally open position.)

Designation of Apparent Cause of Occurrence

The apparent cause of the occurrence was a faulty undervoltage sensing relay coil (27P). The faulty coil caused an interruption of 125 VDC control power to MOV 2300. The coil was examined following the occurrence and found to have an electrical "open". No cause for the "open" in the coil could be determined.

A contributing cause to the occurrence was a design oversight. The intended function of the relay coil is to provide a visual indication (loss of indicating lights) in the event of the loss of 250 VDC operating power to MOV 2300. However, as presently designed, a malfunction of the relay coil can cause an interruption of 125 VDC control power to MOV 2300.

Analysis of Occurrence

It has been determined that the occurrence did not present an unsafe plant condition.

Corrective Action

The faulty undervoltage relay coil (27P) was replaced. Subsequent to this abnormal occurrence, malfunctions of the relay coil occurred on December 23 and December 26, 1974. The coil was replaced on each of these occassions and has since remained operational. Iowa Electric personnel are presently consulting with the manufacturer of the relay coil in an attempt to determine the reason for the repeated malfunction of the coil.

In order to prevent repetition of the occurrence, ie: loss of 125 VDC control power to MOV 2300, a design change will be made which will eliminate the possibility of an electrical "open" in relay coil 27P causing a loss of control power to MOV 2300. The relay coil will be relocated such that an "open" in the relay coil (or loss of 250 VDC operator power) will cause a loss of valve position indicating lights but not a loss of 125 VDC control power to MOV 2300.

A design review of all plant safety systems has been performed and 18 additional pumps and valves have been identified as having the potential for the loss of control power when there is a malfunction (electrical "open") in an undervoltage relay sensing coil. The design change, as described above, will also be applied to each of these situations.

Conclusion

This report was reviewed and approved by the DAEC Operations Committee on December 31, 1974. The Committee concluded that the occurrence did not present a hazard to the health and safety of the public.

G. G. Hunt
Chief Engineer
Duane Arnold Energy Center

DLW:GGH:bh