

**AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)**

CONTROL NO: 6516

FILE: _____

FROM: Iowa Electric Light & Power Cedar Rapids, IO G. G. Hunt		DATE OF DOC 7-11-74	DATE REC'D 7-17-74	LTR X	TWX	RPT	OTHER
TO: James G. Keppler		ORIG 1 signed	CC	OTHER	SENT AEC PDR XXX SENT LOCAL PDR XXX		
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-331		

DESCRIPTION:
Ltr trans the following....

PLANT NAME: DUANE ARNOLD

ENCLOSURES:
Abnormal occurrence rpt #AO 50-331/74-13 of various dates re RCIC steam supply outboard & inboard isolation valve timing outside limits.....

**ACKNOWLEDGED
DO NOT REMOVE**

(1 cy encl rec'd)

FOR ACTION/INFORMATION 7-18-74 GMC

- | | | | |
|------------|---------------|----------------|-----------|
| BUTLER (L) | SCHWENCER (L) | ZIEMANN (L) | REGAN (E) |
| W/ CYS | W/ CYS | W/ CYS | W/ CYS |
| CLARK (L) | STOLZ (L) | DICKER (E) | ✓ LEAR |
| W/ CYS | W/ CYS | W/ CYS | W/7 CYS |
| W/ CYS | VASSALIO (L) | KNIGHTON (E) | |
| W/ CYS | W/ CYS | W/ CYS | W/ CYS |
| KNIEL (L) | PURPLE (L) | YOUNGBLOOD (E) | |
| W/ CYS | W/ CYS | W/ CYS | W/ CYS |

INTERNAL DISTRIBUTION

- | | | | | |
|---------------------|---------------|-------------|----------------|-------------------|
| ✓ REG FILE | ✓ TECH REVIEW | DENTON | ✓ LIC ASST | A/T IND |
| ✓ AEC PDR | ✓ HENDRIE | GRIMES | DIGGS (L) | BRAITMAN |
| ✓ OGC | ✓ SCHROEDER | GAMMILL | GEARIN (L) | SALTZMAN |
| ✓ MUNTZING/STAFF | ✓ MACCARY | KASTNER | GOULBOURNE (L) | B. HURT |
| ✓ CASE | ✓ KNIGHT | BALLARD | KREUTZER (E) | |
| GIAMBUSSO | ✓ PAWLICKI | SPANGLER | LEE (L) | ✓ PLANS |
| BOYD | ✓ SHAO | | MAIGRET (L) | MCDONALD |
| MOORE (L)(LWR-2) | ✓ STELLO | ✓ ENVIRO | REED (E) | CHAPMAN |
| DEYOUNG (L)(LWR-1) | ✓ HOUSTON | MÜLLER | SERVICE (L) | DUBE w/input |
| SKOVHOLT (L) | ✓ NOVAK | DICKER | SHEPPARD (L) | E. COUPE |
| ✓ GOLLER (L) | ✓ ROSS | KNIGHTON | SLATER (E) | |
| P. COLLINS | ✓ IPPOLITO | YOUNGBLOOD | SMITH (L) | ✓ D. THOMPSON (2) |
| DENISE | ✓ TEDESCO | REGAN | ✓ TEETS (L) | ✓ KLECKER |
| ✓ REG OPR | ✓ LONG | PROJECT MGR | WILLIAMS (E) | ✓ EISENHUT |
| ✓ FILE & REGION (3) | ✓ LAINAS | | WILSON (L) | |
| ✓ MORRIS | ✓ BENAROYA | | | |
| ✓ STEELE | ✓ VOLLMER | HARLESS | | |

EXTERNAL DISTRIBUTION

- | | | |
|--|-------------------------------|-------------------------|
| ✓ 1 - LOCAL PDR CEDAR RAPIDS, IO | (1)(2)(10)-NATIONAL LABS | 1-PDR-SAN/LA/NY |
| ✓ 1 - TIC (ABERNATHY) | 1-ASLBP(E/W Bldg, Rm 529) | 1-BROOKHAVEN NAT LAB |
| ✓ 1 - NSIC (BUCHANAN) | 1-W. PENNINGTON, Rm E-201 GT | 1-G. ULRIKSON, ORNL |
| 1 - ASLB | 1-B&M SWINEBROAD, Rm E-201 GT | 1-AGMED (RUTH GUSSMAN) |
| 1 - P. R. DAVIS | 1-CONSULTANTS | Rm B-127 GT |
| ✓ 16 - ACRS SENT TO LIC ASST TEETS 7-18-74 | NEWARK/BLUME/AGBABIAN | 1-RD..MUELLER, Rm F-309 |

36

THE FOLLOWING IS A
SUMMARY OF THE

...

...

REGULATORY DOCKET FILE COPY

IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

CEDAR RAPIDS, IOWA

DUANE ARNOLD ENERGY CENTER

PALO, IOWA

July 11, 1974

DAEC - 74 - 246

Mr. James G. Keppler, Regional Director
Directorate of Regulatory Operations
U. S. Atomic Energy Commission
Region III
799 Roosevelt Road
Glenn Ellyn, Illinois 60137

50 - 331



SUBJECT: Abnormal Occurrence No. AO 50-331/74-13
FILE: A-118a

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. Mr. R. Knopp, of your office, was notified of the occurrence at approximately 1630 hours on July 2, 1974.

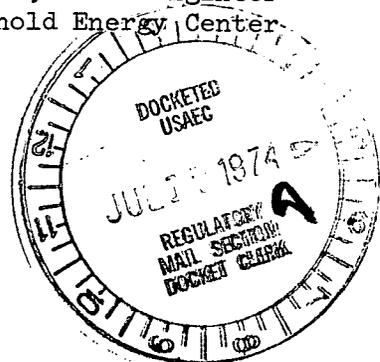
Yours very truly,

A handwritten signature in cursive script, appearing to read "G. G. Hunt".

G. G. Hunt, Chief Engineer
Duane Arnold Energy Center

Encl.
DLW/GGH/pg

cc: John O'Leary
C. W. Sandford
J. A. Wallace
E. L. Hammond
B. R. York
H. W. Rherauer - Chairman, Safety Committee
L. D. Root
J. R. Newman
B. L. Hopkins
D. L. Wilson



JUL 15 1974

6516

IOWA ELECTRIC LIGHT AND POWER COMPANY

General Office

CEDAR RAPIDS, IOWA

Subject: Abnormal Occurrence
Report Number: AO 50-331/74-13
Report Date: July 11, 1974
Occurrence Date: May 25, 1974 through May 27, 1974, May 29, 1974,
June 6, 1974 and June 10, 1974
Facility: Duane Arnold Energy Center, Unit No. 1, Palo, Iowa

Identification of Occurrences

RCIC steam supply outboard and inboard isolation valve timing outside Technical Specification limits, identified in accordance with Section 1.4.d of the Technical Specifications.

Conditions Prior to Occurrence

Not applicable.

Description of Occurrences

During a review of plant operations on July 1, 1974, the DAEC Operations Committee determined that certain measurements of RCIC inboard and outboard isolation valve closing times, as described below, were in excess of Technical Specification limits.

<u>DATE</u>	<u>MOV 2401 (SECONDS)</u>	<u>MOV 2400 (SECONDS)</u>
5/25/74	20.35	20.7
5/26/74	21.35	20.2
5/27/74	20.65	20.59
5/29/74	21.2	Within Limits
6/6/74	21.4	20.23
6/10/74	21.2	Within Limits

The out-of-specification valve closing times were originally identified on June 10, 1974 during the normal review of surveillance data by the Reactor and Plant Performance Group. At that time, the Reactor and Plant Performance Engineer notified the Operations Supervisor concerning the problem and they jointly initiated an investigation. This investigation revealed that since the Surveillance Test Procedure did not specify the method of measuring valve times, either of two methods could have been used. The valves could have been timed by the

"switch-to-light" method or the "light-to-light" method as specified below:

1. "switch-to-light" - Commence time measurement with the initiation of switch actuation and end when the open light is de-energized indicating that the valve is closed.
2. "light-to-light" - Commence time measurement when the closed light is energized and end when the open light is de-energized.

The investigation also revealed that the "switch-to-light" method had been used for measuring RCIC isolation valve closing times in those instances the valves were noted to be out of specification. Therefore, the occurrences were not reported to the USAEC. However, at the July 1, 1974 meeting of the Operations Committee, committee members agreed that the occurrences should have been reported to the USAEC even though it was suspected the closing times would have been within limits if the other method of measurement had been used.

Design of Apparent Cause of Occurrences

The apparent cause of the occurrences has been designated as the use of a method for measuring RCIC valve closing times more restrictive than that necessary to satisfy the intent of the Technical Specifications and the Final Safety Analysis Report. Specifically, the "switch-to-light" method was used for conducting the RCIC operability Surveillance Test Procedure on those dates the RCIC valve closing times were noted to be out of specification. It is felt this method was too restrictive and that the valve closing times would have been within specification had the "light-to-light" method of time measurement been used.

Also, as stated in the "Analysis of Occurrence" section of this report, the licensee and Nuclear Steam Supply System vendor have determined that the "light-to-light" method for measuring RCIC isolation valve closing times is consistent with isolation requirements in the safety analysis.

Analysis of Occurrences

The out-of-specification valve closing times have been analyzed and it has been determined that they did not present any potential consequence from the standpoint of public health and safety.

Evaluation of the Technical Specification limit of 20 seconds for RCIC inboard and outboard isolation valve closing times by the licensee and the Nuclear Steam Supply System vendor revealed that the limit was substantially more restrictive than that associated with the safety design bases for valve closure time used in the FSAR. Accordingly, at the time they were noted to be outside Technical Specification limits, the RCIC inboard and outboard isolation valves would have performed their required safety function. Also, considering the substantial margin between the Technical Specification limit and the limit actually required to be consistent with the Final Safety Analysis Report, the "light-to-light" method of measuring valve closing times is considered satisfactory for the RCIC isolation valves.

During their investigation of the occurrence, the Operations Supervisor and the Reactor and Plant Performance Engineer determined that the required surveillance test problem form was not initiated immediately upon discovery of the out-of-specification condition. This oversight contributed to the delay in identifying the problem and bringing it to the attention of the Operations Supervisor.

Corrective Action

The following items summarize those actions initiated to prevent the repetition of a similar occurrence:

1. The RCIC Operability Surveillance Test Procedure has been revised to specify the use of the "light-to-light" method for measuring inboard and outboard isolation valve closing times.
2. During special training classes, the importance of preparing the surveillance test problem form, when appropriate, was emphasized to Operations personnel.
3. A design change has been initiated on the RCIC inboard and outboard isolation valve operators to change the gear ratio and reduce the valve closing times by approximately 17%, thus providing additional margin between the valve closing times and the Technical Specification limits.

Conclusion

The contents of this report, including corrective actions were reviewed and approved by the DAEC Operations Committee on July 11, 1974. The Committee concluded that the health and safety of the public was not impaired.



G. G. Hunt
Chief Engineer
DAEC

