

## LICENSEE EVENT REPORT (LER)

|  |        |  |                |                     |                 |                  |                 |           |                        |  |   |                               |                               |  |     |      |   |   |   |   |   |   |
|--|--------|--|----------------|---------------------|-----------------|------------------|-----------------|-----------|------------------------|--|---|-------------------------------|-------------------------------|--|-----|------|---|---|---|---|---|---|
| FACILITY NAME (1)<br>Duane Arnold Energy Center                            |        |  |                |                     |                 |                  |                 |           |                        | DOCKET NUMBER (2)<br>0 5 0 0 0 3 3 1                   |   |                               |                               | PAGE (3)<br>1 OF 0 3   |     |      |   |   |   |   |   |   |
| TITLE (4)<br>Electrical Isolation Error During CRD Maintenance             |        |  |                |                     |                 |                  |                 |           |                        |  |   |                               |                               |  |     |      |   |   |   |   |   |   |
| 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<br>None |  |   |                               | DOCKET NUMBER(S)<br>0 5 0 0 0 |  |     |      |   |   |   |   |   |   |
| 0  | 6      | 0  | 7              | 8                   | 5               | 8                | 5               | 0         | 1                      | 9  | 0 | 0                             | 7                             | 0  | 7   | 8    | 5 | 0 | 5 | 0 | 0 | 0 |
| OPERATING MODE (9)<br>N  |        | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) |                |                     |                 |                  |                 |           |                        |  |   |                               |                               |  |     |      |   |   |   |   |   |   |
| POWER LEVEL (10)<br>0 0 0  |        | 20.402(b)  |                |                     |                 | 20.405(c)        |                 |           |                        | 50.73(a)(2)(iv)  |   |                               |                               | 73.71(b)   |     |      |   |   |   |   |   |   |
|  |        | 20.405(a)(1)(i)  |                |                     |                 | 50.36(c)(1)      |                 |           |                        | 50.73(a)(2)(v)   |   |                               |                               | 73.71(c)   |     |      |   |   |   |   |   |   |
|  |        | 20.405(a)(1)(ii)   |                |                     |                 | 50.36(c)(2)      |                 |           |                        | 50.73(a)(2)(vii)                                       |   |                               |                               | OTHER (Specify in Abstract below and in Text, NRC Form 365A) |     |      |   |   |   |   |   |   |
|  |        | 20.405(a)(1)(iii)  |                |                     |                 | X 50.73(a)(2)(i) |                 |           |                        | 50.73(a)(2)(viii)(A)                                   |   |                               |                               |  |     |      |   |   |   |   |   |   |
|  |        | 20.405(a)(1)(iv)   |                |                     |                 | 50.73(a)(2)(ii)  |                 |           |                        | 50.73(a)(2)(viii)(B)                                   |   |                               |                               |  |     |      |   |   |   |   |   |   |
|  |        | 20.405(a)(1)(v)  |                |                     |                 | 50.73(a)(2)(iii) |                 |           |                        | 50.73(a)(2)(ix)  |   |                               |                               |  |     |      |   |   |   |   |   |   |
| LICENSEE CONTACT FOR THIS LER (12)   |        |  |                |                     |                 |                  |                 |           |                        |  |   |                               |                               |  |     |      |   |   |   |   |   |   |
| NAME<br>William J. Miller, Technical Services Superintendent               |        |  |                |                     |                 |                  |                 |           |                        | TELEPHONE NUMBER<br>AREA CODE<br>3 1 9 8 5 1 - 7 2 1 5 |   |                               |                               |  |     |      |   |   |   |   |   |   |
| 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                                    |   |                               |                               |  |     |      |   |   |   |   |   |   |
|  |        |  |                |                     |                 |                  |                 |           |                        |  |   |                               |                               |  |     |      |   |   |   |   |   |   |
|  |        |  |                |                     |                 |                  |                 |           |                        |  |   |                               |                               |  |     |      |   |   |   |   |   |   |
| SUPPLEMENTAL REPORT EXPECTED (14)  |        |  |                |                     |                 |                  |                 |           |                        |  |   | EXPECTED SUBMISSION DATE (15) |                               | MONTH  | DAY | YEAR |   |   |   |   |   |   |
| YES (If yes, complete EXPECTED SUBMISSION DATE)                            |        |  |                |                     |                 |                  |                 |           |                        |  |   | X NO                          |                               |  |     |      |   |   |   |   |   |   |

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

During shutdown for a refueling outage, while in the refuel mode, Control Rod Drive (CRD) maintenance (EIS System AA) was performed over an approximately four hour period on June 7, 1985. DAEC Technical Specification Section 3.9 requires that during such maintenance, other control rods centered around the cell in which maintenance is being performed be electrically disarmed. The adjacent control rods were not electrically disarmed during the maintenance activity. However, the one rod withdrawn refueling interlock would have prevented any other control rod from being withdrawn during the maintenance activity.

The cause of the event was operator error. Interdepartmental communications problems (the tags to electrically disarm CRD's were prepared several days in advance of the maintenance by another shift in anticipation of the maintenance), operator distractions with various other administrative duties (which are amplified during major outages) and imperfect administrative procedural checks and balances contributed to this error. Corrective actions, as detailed on page 2, have lessened distractive administrative duties, reinforced technical specification compliance awareness, improved communications and provided for operator support on maintenance activity planning. This event is being reported pursuant to 10 CFR 50.72 as an event which constitutes a condition prohibited by technical specifications.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

|   |   |                |                      |                    |          |  |  |
|---|---|----------------|----------------------|--------------------|----------|--|--|
| FACILITY NAME (1)<br><br>Duane Arnold Energy Center | DOCKET NUMBER (2)<br><br>0 5 0 0 0 3 3 1 8 5 — 0 1 9 — 0 0 0 2 OF 0 3 | LER NUMBER (6) |                      |                    | PAGE (3) |  |  |
|   |   | YEAR           | SEQUENTIAL<br>NUMBER | REVISION<br>NUMBER |          |  |  |
|   |   |                |                      |                    |          |  |  |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

With the reactor in refuel mode on June 7, 1985, maintenance was performed to replace CRD 18-11 due to control rod drive problems that were noted during refueling operations. The 18-11 control rod was withdrawn by the CRD, uncoupled, CRD changeout completed, and reinserted between 1738 and 2150 hours. During this period, fuel intentionally remained loaded in the fuel cell surrounding control rod 18-11. With the exception of the fuel surrounding two other control rods (2 cells total), all other fuel cells remained loaded. The 2 cells that were empty during this evolution had been unloaded previously and the two control rods in these cells withdrawn to support prior maintenance. As allowed by DAEC Technical Specifications, the one rod withdrawn interlocks for the control rods with empty cells had been overridden.

During maintenance on CRD 18-11, the refueling interlock was enabled which prevents withdrawal of another rod in a loaded cell. In advance of the maintenance activities, a different operating shift (several days prior to this event) had prepared the maintenance work tags to electrically disarm other operable control rods. This action was initiated to comply with DAEC Technical Specification Section 3.7. By oversight, however, the operations crew which authorized the CRD maintenance activity failed to require the electrical disarming of the operable CRD's. Although additional control rod withdrawal was blocked by active interlocks and administrative controls, the failure to electrically disarm placed the facility in a condition prohibited by technical specifications and is being reported accordingly.

The CRD replacement activity occurred during one operating crew shift on Friday evening. The condition was identified on the following Monday morning by another Operations crew that found the prepared, but unused package of maintenance tags. An internal review of the event was initiated and NRC Region III personnel were promptly informed.

Corrective action initiated for the event has been completed as follows:

- (1) Shift operating supervisory personnel were informed of the event, managements' view of the unacceptability of the event, and guidance on the need for strict technical specification referral and compliance.
- (2) A prior-to-maintenance review of maintenance activity requests (MAR) was instituted by licensed personnel to identify job prerequisites prior to operating shift supervisor receipt of MAR for work commencement authorization. In this manner, a separate, independent review by licensed personnel is performed which identifies technical specification requirements and prerequisites.
- (3) Control room traffic and shift personnel administrative duties (which peak during outage activities) have been reduced to provide more direct shift resource attention to plant maintenance and evolutions.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

|   |  |                |                      |                    |          |    |     |
|---|--|----------------|----------------------|--------------------|----------|----|-----|
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|   |  | YEAR           | SEQUENTIAL<br>NUMBER | REVISION<br>NUMBER |          |    |     |
|   |  | 8 5            | - 0 1 9              | - 0 0              | 0 3      | OF | 0 3 |

TEXT (If more space is required, use additional NRC Form 365A's) (17)

- (4) Operations Department communications have been strengthened to augment understanding of specific activities in progress as well as long-term activities and general status.
- (5) Significant plant evolutions, for the remainder of the refueling outage, require an additional level of management "readiness review" prior to commencement of the evolution.
- (6) Various procedural modifications (including adding CRD maintenance procedure precautions) have been instituted.

Iowa Electric Light and Power Company

July 5, 1985  
DAEC-85-0569

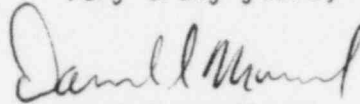
U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Subject: Duane Arnold Energy Center  
Docket No. 50-331  
Op. License DPR-49  
Licensee Event Report No. 85-019

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  
Duane Arnold Energy Center

DLM/WJM/kp

attachment

cc: Mr. James G. Keppler  
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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