

Bucket No. 50-331

SEP 4 1977

Iowa Electric Light and Power  
Company

ATTN: Mr. Duane Arnold  
President

IE Towers  
P. O. Box 351  
Cedar Rapids, IA 52406

Gentlemen:

Thank you for your letter dated September 19, 1977, informing us of the steps you have taken to correct the noncompliance identified in our letter dated August 29, 1977. We will examine your corrective action during a future inspection.

Your cooperation with us is appreciated.

Sincerely,

Caston Fiorelli, Chief  
Reactor Operations and  
Nuclear Support Branch

cc: Mr. Lee Liu, Vice  
President, Engineering  
Mr. E. L. Hammond,  
Chief Engineer

cc w/ltr dtd 9/19/77:  
Central Files  
Reproduction Unit NRC 20b  
PDR  
Local PDR  
NSIC  
TIC

OFFICE >	RIII	RIII	RIII			
SURNAME >	Kister/ls	Knop <i>ACK</i>	Fiorelli <i>CF</i>			
DATE >	9/30/77					

# IOWA ELECTRIC LIGHT AND POWER COMPANY

*General Office*

CEDAR RAPIDS, IOWA

September 19, 1977

IE-77-1758

LEE LIU

VICE PRESIDENT - ENGINEERING

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

Re: Duane Arnold Energy Center  
Subject: Inspection and Enforcement Report  
No. 50-331/77-16  
File: A-102, I&E Report 77-16

Dear Mr. Keppler:

This letter is in response to your letter relative to an inspection conducted at the Duane Arnold Energy Center during the month of August, 1977. The following responses are to information requests identified in your letter.

## APPENDIX A

### Notice of Violation:

Contrary to 10CFR, Part 50, Appendix B, Criterion IV and Quality Assurance Directive QAD 1304.1, Paragraph 5.3.1, 5.4.2, 5.4.4 and ACP 1403.1, Paragraph 5.1.1, the licensee failed to correctly determine the quality requirements for the CRD Hydraulic Control Unit level switches and "O" rings on Purchase Order No. 4535.

### Response:

#### 1. Corrective action taken and results achieved:

A document was issued by the Corporate Engineering and Quality Assurance organizations to the DAEC Chief Engineer with copies to the original Purchase Requisition's signatories, informing them of the incorrect quality notation. The quality notation should have been "R" instead of "N" as noted by the originator.

SEP 23 1977

Mr. James G. Keppler  
IE-77-1758  
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1. Continued

A review of the certification from the vendor resulted in agreement that the Product Quality Certification received resulted from the vendor having classified the components in question as being "Essential" which is in agreement with the "R" designation.

2. Corrective action taken to avoid further noncompliance:

A review of the action which resulted in the approval of the incorrect quality notation, as indicated by the Purchase Requisition originator, was undertaken. It was determined that personnel had misinterpreted design document quality notation.

It is believed that the action which resulted in the noncompliance represents an isolated case since the review process is conducted with numerous personnel who have access to the design documents and as such is intended to provide review adequacy.

3. Date when full compliance will be achieved:

It is anticipated that document notation changes should be completed by November 1, 1977.

In addition to the above information, your letter requested that a date for completing the Safety Related Equipment List be included in our reply to the Inspection Report.

It is anticipated that our consultant will have completed the compilation of safety-related equipment by December 31, 1977. Our continual review of this effort lends us to believe that incorporation of that compilation in our system should follow shortly after receipt pending a short review. It is our intent to keep Mr. Kister informed as to status.

Sincerely yours,

  
Lee Liu  
Vice President, Engineering

LL/HWR/ms

cc: H. Rehrauer  
D. Arnold  
R. Lowenstein  
L. Root



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

AUG 29 1977

Docket No. 50-331

Iowa Electric Light and Power Company  
ATTN: Mr. Duane Arnold, President  
IE Towers  
P. O. Box 351  
Cedar Rapids, IA 52406

Gentlemen:

This refers to the inspection conducted by Mr. H. B. Kister of this office on August 8-11, 1977, of activities at Duane Arnold Energy Center authorized by NRC Operating License No. DPR-49 and to the discussion of our findings with Mr. Hammond and his staff at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in noncompliance with NRC requirements, as described in the enclosed Appendix A.

In relation to our discussions with your engineering staff regarding the establishment of a Safety Related Equipment List, it is requested that a date for completing the subject task be included in your reply to this inspection report.

This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office within twenty days of your receipt of this notice a written statement or explanation in reply, including for each item of non-compliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's

Iowa Electric Light  
and Power Company

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AUG 29 1977

Public Document Room, except as follows. If this report contains information that you or your contractors believe to be proprietary, you must apply in writing to this office, within twenty days of your receipt of this letter, to withhold such information from public disclosure. The application must include a full statement of the reasons for which the information is considered proprietary, and should be prepared so that proprietary information identified in the application is contained in an enclosure to the application.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

Caston Fiorelli, Chief  
Reactor Operations and  
Nuclear Support Branch

Enclosures:

1. Appendix A, Notice of Violation
2. IE Inspection Report No. 50-331/77-16

cc w/encls:

Mr. E. L. Hammond,  
Chief Engineer  
Central Files  
Reproduction Unit NRC 20b  
PDR  
Local PDR  
NSIC  
TIC

OFFICE	RIII <i>RCR</i>	RIII	RIII		
SURNAME	Kister/Is	Knop <i>RCR</i>	Fiorelli <i>RCR</i>		
DATE	8/26/77				

Appendix A

NOTICE OF VIOLATION

Iowa Electric Light and  
Power Company

Docket No. 50-331

Based on the inspection conducted on August 8-11, 1977, certain of your activities appear to be in noncompliance with NRC requirements, as noted below. The following item is a deficiency.

Contrary to 10 CFR, Part 50, Appendix B, Criterion IV and Quality Assurance Directive QAD 1304.1, Paragraph 5.3.1, 5.4.2, 5.4.4, and ACP 1403.1, Paragraph 5.1.1, the licensee failed to correctly determine the quality requirements for the CRD Hydraulic Control Unit level switches and "O" Rings on Purchase Order No. 4535.

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-331/77-16

Docket No. 50-331

License No. DPR-49

Licensee: Iowa Electric Light and Power Company  
IE Towers  
P.O. Box 351  
Cedar Rapids, IA 52406

Facility Name: Duane Arnold Energy Center

Inspection At: Duane Arnold Site, Palo, IA

Inspection Conducted: August 8-11, 1977

Inspector:

*H. B. Kister*  
H. B. Kister

8/29/77

Approved by:

*R. C. Knop*  
R. C. Knop, Chief  
Reactor Projects Section 1

8/29/77

Inspection Summary

Inspection on August 8-11, 1977 (Report No. 50-331/77-16)

Areas Inspected: Routine, unannounced inspection of Material Procurement, and review of Licensee Event Reports. The inspection involved 25 inspector-hours onsite by one inspector.

Results: Of two areas inspected, one item of noncompliance was found in one area (Deficiency - failure to specify the proper quality requirements on a procurement purchase requisition, Paragraph 3.a)

DETAILS

1. Persons Contacted

Corporate Office

H. Rehrauer, Supervisor, Project Engineering

Site

- \*E. Hammond, Chief Engineer
- D. Mineck, Assistant Chief, Engineer
- \*B. York, Operations Supervisor
- D. Gipson, Shift Supervising Engineer
- M. Hammer, Shift Supervising Engineer
- \*J. Vinqvist, Electrical Maintenance Supervisor
- R. Hannen, Reactor and Plant Performance Engineer
- \*R. Rinderman, Quality Supervisor
- \*D. Wilson, Technical Engineer
- \*J. Van Sickle, Engineering Assistant

The inspector also talked with and interviewed several other licensee employees, including members of the technical and operating staff.

\*Denotes those attending the exit interview.

2. Review of Licensee Event Reports

A review of reporting, corrective actions, licensee review and evaluation and compliance with regulatory requirements was conducted for the following reportable occurrences:

<u>Event Title</u>	<u>Event Date</u>	<u>Licensee Rpt Date</u>
<u>In Office Review</u>		
a. 50-331/77-45, 250V DC Annunciator Relay Failed to Reset (30 day)	5/26/77	6/23/77
<u>Site Review</u>		
b. 50-331/77-22, UT Indication in 4" Bypass Piping (14 day)	3/22/77	4/5/77



<u>Event Title</u>	<u>Event Date</u>	<u>Licensee Rpt Date</u>
c. 50-331/77-47, APRM Flux Inst. Calib. not Performed (30 day)	5/31/77	6/23/77
d. 50-331/77-48, 1G21 D.G. Monthly Operability Test not Conducted (30 day)	5/31/77	6/29/77
e. 50-331/77-49, MCPR LCO Exceeded (30 day)	6/5/77	6/23/77
f. 50-331/77-52, RCIC Hi Stm Flow PDIS Tripped Out of Spec (14 day)	6/13/77	7/13/77
g. 50-331/77-53, Reactor Period Suspected of Being Less than 5 Secs. (14 day)	5/22/77	6/28/77
h. 50-331/77-53a, Reactor Period Suspected of Being Less than 5 Secs. (14 day)	5/27/77	6/28/77
i. 50-331/77-55, Torus to RB Vacuum Breaker PDIS's Tripped Out of Spec. (14 day)	6/28/77	7/28/77
j. 50-331/77-56, RCIC Hi Stm Flow PDIS's Tripped Out of Spec. (14 day)	7/11/77	7/22/77
k. 50-331/77-58, ESS 480V Bus 1B34A Tie Breaker Tripped On Overcurrent (14 day)	7/16/77	7/28/77

The licensee event report reviewed in the office is considered closed. The inspector's onsite review of reports included discussions of each event with licensee representatives as required, examination of the report, and other documents related to the particular areas reviewed. Comments are as follows:

- Item b - A supplemental report was provided and reviewed. The repairs were also reviewed and closed out during a previous inspection.<sup>1/</sup> This event report is considered closed.
- Items c and d - The corrective actions for the subject events include re-instruction of personnel which has not yet been accomplished. No completion date was provided in the licensee event report. The inspector<sup>2/3/</sup> reminded the licensee of their commitment<sup>2/3/</sup> regarding the handling of personnel errors and the advisability of conducting the re-instruction promptly. The licensee stated that corrective action would be completed promptly. These event reports will remain open pending completion of corrective action.
- Item e - The inspector reviewed the plant operating logs and noted that action had been taken in accordance with technical specifications to return MCPR to the required value within the specified time. This item is considered closed.
- Item f - The inspector noted that this event had been initially evaluated as a 30 day report, however, upon further review, the licensee determined that it should have been a 14 day report. The inspector was subsequently notified and a twenty-four hour notification was submitted. This item is considered closed.
- Items g and h - These event reports are the subject of a noncompliance included in a previous inspection report<sup>4/</sup> and corrective action was specified in the licensee's response.<sup>5/</sup> For record purposes, this item is considered closed as the corrective actions will be evaluated as part of the noncompliance review.
- Item i - The licensee's corrective action included increased surveillance from quarterly to monthly for two months to assure prompt identification of any further problems. Upon review, the inspector noted that the

1/ IE Inspection Rpt No. 50-331/77-08, dtd 5/18/77.

2/ Iowa Electric Ltr from J. A. Wallace to J. G. Keppler, dtd 11/12/77.

3/ Iowa Electric Ltr from Duane Arnold to J. G. Keppler, dtd 11/29/77.

4/ IE Inspection Rpt No. 50-331/77-14, dtd 6/24/77.

5/ Iowa Electric Ltr from J. A. Wallace to J. G. Keppler dtd 7/27/77.

first monthly check had not yet been accomplished. The licensee conducted the surveillance on August 11, 1977, and informed the inspector that the set points were within specifications. This item is considered closed.

- Item k
- As noted in the LER, this event resulted in both LPCI subsystems and the MSIV-LCS being inoperable until the load could be manually shifted to the redundant breaker. The inspector noted that during this time the Core Spray system was operable which provided the primary source of low pressure cooling. The loss of the redundant LPCI system and the MSIV-LC system resulted from the failure to properly check out and test a newly installed breaker. A review of the Maintenance Action Request (MAR) revealed that no special testing or calibration had been specified prior to placing the breaker in service. This condition is similar to previously noted events and was the subject of noncompliance<sup>6/</sup> for failure to conduct post installation/repair testing (It was noted that corrective action is still in progress.) The LER corrective action included re-instruction of personnel which had not yet been accomplished. The licensee stated that corrective action will be completed promptly. This item will remain open pending completion of the above.

The inspector noted that there were several Licensee Event Reports that require issuance of supplemental reports. The licensee acknowledged the comment and stated that several evaluations had been completed and that supplemental reports would be forthcoming.

During the review of the above Licensee Event Reports, the inspector noted that the licensee had identified four items relating to Technical Specifications, satisfactory corrective action has been completed for one item and three items are pending.

### 3. Procurement Program

The inspector reviewed selected areas of the licensee's procurement process. Included were preparation and approval of purchase requisitions

6/ IE Inspection Rpt No. 50-331/77-14, dtd 6/24/77

and purchase orders, inspection requirements, quality records, vendor documentation and certification, and material receiving, issue and storage. Comments are as follows:

- a. Purchase Order No. 4535 for control rod drive hydraulic control unit level switches and "O" Rings was reviewed. The inspector noted that the purchase requisition was quality coded "N" (non-safety related). After further investigation and discussions with the licensee it was concluded that an error had been made in that the requisition should have been quality coded "R" (safety related). The licensee stated that the purchase requisition would be changed accordingly and all related documents revised to reflect the above. The inspector informed the licensee that the incorrect determination of quality requirements was not in accordance with QAD 1304.1, Paragraph 5.3.1, 5.4.2, 5.4.4, ACP 1403.1, Paragraph 5.1.1, and 10 CFR, Part 50, Appendix B, Criterion IV, and would be considered an item of noncompliance. It was further noted that material certification was received from the vendor, (General Electric) for the switches and "O" rings even though none was required by the purchase order. The licensee stated that shelf life requirements for the rubber "O" rings would be pursued with the vendor.
  
- b. Purchase Order No. 5549, for an Allis Chalmers circuit breaker, type LA-600A, was reviewed. This was the replacement for breaker 52-3401 which had been damaged by an internal fire.<sup>7/</sup> The inspector noted that material conformance certification had not been received from the vendor prior to installation of the subject breaker, however, Iowa Electric Engineering had reviewed the matter and determined that the breaker met all the requirements except in the area of seismic qualification (Bechtel Specification E-9). This was documented and included in the records. Discussions with licensee engineering indicated that Bechtel seismic specification E-9 is a generic specification and applies to the worst design condition, irrespective of the location of the equipment. The licensee further stated that the subject model breaker had been previously qualified to a lesser seismic requirement which is well within the design criteria of the FSAR since the breaker is located on the grade level and is subject to less forces than those specified in Bechtel Specification E-9. Since the subject breaker is an improved version of the original model, Iowa Electric elected to conduct a seismic simulation test program to ensure that the breaker met all the Bechtel Specification E-9 requirements. The test program was successfully completed at Wyle Laboratories and documentation has been received.

<sup>7/</sup> Licensee Event Rpt No. 50-331/77-56, dtd 5/19/77.

The licensee stated that receipt of final, formal documentation from Allis Chalmers will be pursued and that a design change will be initiated to document the breaker replacement.

- c. Purchase Orders for the recently replaced main steam relief valves, and Barton flow transmitters for the HPCI system were also reviewed along with record verification of several spare parts. No significant problems were identified.

4. Safety Related Equipment List

The inspector discussed the progress toward development of the Safety Related Equipment List with Iowa Electric Engineering. The maintenance of a Safety Related List is required by QAD 1301.4. The licensee stated that the task is progressing toward completion and could tentatively be completed by the end of the year. The inspector commented that, with the implementation of the work inspection program on September 1, 1977, the completion of the subject list takes on additional meaning. Also, the availability of the list would be beneficial in reducing the possibility of procurement errors such as the one discussed in Paragraph 2.a. The licensee stated that the status of the task would be reviewed with respect to establishment of a completion date.

5. Inservice Inspection Report

The DAEC 1977 Inservice Inspection Report, which was forwarded by Mr. J. A. Wallace on June 9, 1977, has been reviewed by the Region III office. There are no further questions regarding this report.

6. Asco Solenoid Valve Program (IE Bulletin 75-03)

During the inspection, the licensee informed the inspector that work on the last four outstanding Asco Solenoid valves<sup>8/</sup> has been completed. The inspector reviewed the associated MARS and had no further questions. The above notification fulfills the RIII request for notification<sup>9/</sup> regarding final completion of the above task.

7. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on August 11, 1977. The inspector summarized the scope and findings of the inspection. The licensee representatives made the following responses to certain of the items discussed by the inspector:

8/ Iowa Electric Ltr from E. L. Hammond to J. G. Keppler, dtd 5/5/77.

9/ RIII Ltr to Iowa Electric, dtd 5/25/77.

- a. Acknowledged the item of noncompliance regarding procurement. (Paragraph 3.a)
- b. Agreed to promptly pursue obtaining the final certification documents from Allis Chalmers for the installed 52-3401 circuit breaker in conjunction with IE Engineering. (Paragraph 3.b)