

*Reactor Facilities
for.*

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

APR 9 1976

Iowa Electric Light and Power Company Docket No. 50-331
ATTN: Mr. Duane Arnold, President
Security Building
P.O. Box 351
Cedar Rapids, Iowa 52405

Gentlemen:

This refers to the inspection conducted by Mr. H. B. Kister of this office on March 20-22, 1976, of activities at Duane Arnold Energy Center authorized by License No. DPR-49 and to the discussion of our findings with Mr. E. Hammond 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.

Noncompliance identified through your management control system and corrected in a timely manner is described under Other Significant Items in the Summary of Findings section of the attached inspection report. We have no further questions regarding these matters at this time.

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 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.



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**Iowa Electric Light
and Power Company**

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APR 9 1976

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

Sincerely yours,

**Gaston Fiorelli, Chief
Reactor Operations and
Nuclear Support Branch**

**Enclosure:
IE Inspection Report
No. 050-331/76-06**

**cc w/encl:
G. G. Hunt
Chief Engineer**

**bcc w/encl:
PDR
Local PDR
NSIC
TIC
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UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Operations Inspection

IE Inspection Report No. 050-331/76-06

Licensee: Iowa Electric Light and Power Company
P.O. Box 351
Cedar Rapids, Iowa 52405

Duane Arnold Energy Center
Palo, Iowa

License No. DPR-49
Category: C

Type of Licensee: BWR (GE) 538 Mwe

Type of Inspection: Routine, Announced

Dates of Inspection: March 20-22, 1976

Principal Inspector: *H. B. Kister*
H. B. Kister

4-8-76
(Date)

Accompanying Inspectors: None

Other Accompanying Personnel: None

Reviewed By: *R. C. Knop*
R. C. Knop, Chief
Reactor Projects Section No. 1

4-8-76
(Date)

SUMMARY OF FINDINGS

Inspection Summary

Inspection on March 20 and 22, (76-06): Review of licensee's corrective actions related to recurrent diesel generator exhaust manifold fires, main steam isolation valve leak rate testing, and licensee action on previously identified enforcement actions. No items of noncompliance were identified.

Enforcement Items

None identified.

Licensee Action on Previously Identified Enforcement Items

The inspector reviewed the corrective action specified by the licensee^{1/} for the infraction reported in IE Inspection Report No. 050-331/75-18 dated December 12, 1975. This item is considered closed.

Other Significant Items

A. Systems and Components

None.

B. Facility Items

The plant was in the final stages of the refueling outage with plans for starting up within the next week.

C. Managerial Items

None.

D. Noncompliance Identified and Corrected by Licensee

Contrary to Technical Specification 3.7.C.1, secondary containment was violated as a result of maintenance personnel bypassing the interlock on the MG set room air lock doors and keeping both doors open.^{2/}

1/ IEL&P ltr dtd 12/31/75.

2/ RO 50-331/75-62 dtd 11/21/75.

E. Deviations

None.

F. Status of Previously Reported Unresolved Items

No change.

Management Interview

A management interview was conducted with E. Hammond at the conclusion of the inspection on March 22, 1976. The following matters were discussed:

A. Diesel Generators

The inspector summarized his review of the diesel generator exhaust manifold insulation fire problems^{3/4/} and noted his concern that the engines should be closely observed to assure that the corrective actions, which were taken, are adequate to prevent further occurrences. Also, the inspector recommended that the necessary steps be taken to expedite delivery and application of the special silicate insulation coating recommended by the diesel engine vendor representative which would help prevent oil soaking of the affected insulation. (Paragraph 2, Report Details)

B. Main Steam Isolation Valve Leak Rate Testing

The inspector discussed his review of MSIV leak rate testing and reaffirmed his understanding of the methods which would be used to obtain satisfactory MSIV leak rate results. The licensee stated that leak rate testing would be performed using air or nitrogen. (Paragraph 3, Report Details)

C. Facility Changes

The inspector discussed the licensee's plans for updating the operators on the facility changes that occurred during the outage. The licensee stated that plans were being formulated to brief the operators on the changes made prior to startup. (Paragraph 5, Report Details)

3/ LER 50-331/75-70 and 76-12.

4/ IE Inspection Rpt No. 050-331/76-05 dtd 3/29/76.

REPORT DETAILS

1. Persons Contacted

E. Hammond, Assistant Chief Engineer
J. Gebert, Maintenance Supervisor
B. York, Operations Supervisor
D. Mineck, Shift Supervising Engineer
R. Hannen, Reactor and Plant Performance Engineer
D. Wilson, Technical Engineer

2. Review of Corrective Action Related to Diesel Generator Exhaust Insulation Fires

The inspector reviewed the corrective actions taken to date related to the two reported instances of diesel generator exhaust insulation fires, ^{5/6} and the most recent incident (March 18, 1976) involving an apparent blown gasket on the exhaust to turbo charger inlet flange which is in the same vicinity as the previously reported fires. The inspector examined the subject gasket, which had since been replaced, and observed that blow by was evident on the inboard side which substantiated the observance of a "flash" or smoldering of insulation by the operator during diesel engine surveillance testing on March 18, 1976. Based on the verbal report received, the inspector agreed that this incident was apparently not related to the previously reported fires which had been caused by oil soaked insulation. The inspector questioned the licensee about the identical flange on the opposite side of the "B" diesel and the identical two flanges on the "A" diesel. The licensee stated that the bolts on the opposite flange of the B unit had been checked and were tight. The A unit flanges had not been checked, however, the licensee agreed to check them. The licensee also stated that two of the bolts on the flange with the defective gasket were looser than the remaining bolts which could have attributed to the gasket leak.

The inspector examined the control end cover plates on both units and noted that the previously leaking areas were reasonably free from oil. Also, it was evident that the soft plugs in the access holes for the optional manual start

5/ LER 50-331/75-70 and 76-12.
6/ IE Inspection Rpt No. 050-331/76-05 dtd 3/29/76.

mechanism had been changed and RTV (liquid gasket sealer) had been used to help seal them. No leaks were noted around the plugs. The licensee stated that operations personnel were inspecting the areas at two hour intervals.

The inspector examined the entire front area of the engine and noted that several smaller inspection covers showed signs of oil seepage, and one cover cap screw was found to be hand tight when checked. The licensee agreed to check the balance of small cover plate bolts for tightness and take whatever additional measures are necessary to stop the oil seepage. Prior to the conclusion of the inspection, the inspector noted that the B unit front covers had been worked on, and the A unit engine was scheduled to be completed prior to startup.

The inspector also examined the insulation in the affected areas and noted that the oil soaked insulation had been replaced on the A and B unit, and metal covers had been placed on the B unit. The licensee stated that the vendor had recommended use of a special silicate coating application to the insulation which would essentially provide a surface impervious to oil and alleviate any possible future oil soaking. A six week lead time for the material was indicated. The inspector recommended that application of the coating be expedited.

During the inspection the inspector observed the "B" diesel generator engine running for approximately fifteen minutes which provided additional assurance that the oil leak had been essentially stopped. No leakage was observed in the affected areas, and the inspector did not observe any smoke emissions or exhaust leaks.

3. Review of MSIV Leak Rate Testing

The inspector reviewed the licensee's current problems with obtaining satisfactory MSIV leak rates during Type C leak rate testing. The licensee indicated that they were considering use of water as a testing medium and use of the water to air conversion factor provided in Section XI of the ASME Boiler and Pressure Vessel Code to determine the leak rate. In fact, some preliminary testing with water had been done on

the inboard valves using a water leg in the upstream piping for pressure. The inspector reminded the licensee that the Technical Specifications Table 3.7.2 notes specify air or nitrogen for the testing media and that, in the inspector's opinion, the exception of main steam lines in the note is related to the stated pressure and not the medium used. Also, 10 CFR 50, Appendix J requires air or nitrogen for Type C testing. In subsequent conversations the licensee stated that the MSIV leak rate testing would be accomplished using air or nitrogen.

4. Noncompliance Identified and Corrected by the Licensee

The inspector reviewed Reportable Occurrence No. 50-331/75-62 dated November 21, 1975 relating to a secondary containment violation and noted that this event represented a noncompliance with the facility Technical Specifications. However, the event was identified, reported, and corrected by the licensee; therefore, no further response is required.

5. Facility Changes

The inspector discussed the various changes made to the facility during the outage with the licensee and inquired as to the licensee's plans for assuring that the operators have been updated prior to unit startup. The licensee stated that the operators would be briefed on all changes that affect plant operations prior to startup.