

UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 858-2660

A. RO Inspection Report No. 050-331/73-11

Transmittal Date : August 31, 1973

Distribution:
RO Chief, FS&EB
RO:HQ (5)
DR Central Files
Regulatory Standards (3)
Licensing (13)
RO Files

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RO Chief, FS&EB
RO:HQ (4)
L:D/D for Fuel & Materials
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RO Files

B. RO Inquiry Report No. _____

Transmittal Date : _____

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RO:HQ (5)
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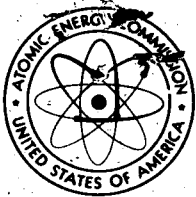
C. Incident Notification From: _____

(Licensee & Docket No. (or License No.)

Transmittal Date : _____

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RO Chief, FS&EB
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UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 858-2660

August 31, 1973

Iowa Electric Light and Power Company
ATTN: Mr. Charles W. Sandford
Vice President, Engineering
Security Building
P. O. Box 351
Cedar Rapids, Iowa 52405

Docket No. 50-331

Gentlemen:

This refers to the inspection conducted by Messrs. Boyd and Brown of this office on August 7-9, 1973, of activities at the Duane Arnold site authorized by AEC Construction Permit No. CPPR-70 and to the discussion of our findings held by the inspector with Messrs. Root, Hunt, and other members of your staff at the conclusion of the inspection on August 9, 1973.

Areas examined during this inspection included cold functional testing, hot functional testing, power ascension testing, containment leak rate testing, operating organization quality assurance program, preoperational/acceptance testing items, and initial fuel loading procedures. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspectors.

No items of noncompliance with AEC requirements were identified within the scope of this inspection.

A copy of our report of this inspection is enclosed. In accordance with Section 2.790 of the AEC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter with the enclosed inspection report will be placed in the AEC's Public Document Room. If the inspection report contains information which you or your contractors believe to be proprietary, it is necessary that you submit a written application to this office, within 20 days of the date of this letter, requesting that such information be withheld from public disclosure. If such an application is submitted, it must identify the basis for which information is claimed to be proprietary and should be prepared so that

Iowa Electric Light
and Power Company

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August 31, 1973

proprietary information identified is contained in a separate part of the document, since the application, excluding this separate part, will also be placed in the Public Document Room. If we do not receive an application to withhold information or are not otherwise contacted within the specified time period, the enclosed report will be placed in the Public Document Room with a copy of this letter.

Unless you wish to make application to withhold information, no reply to this letter is necessary; however, should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

James G. Keppler
Regional Director

Enclosure:

RO Inspection Rpt No. 050-331/73-11

cc: G. Hunt, Chief Engineer
DAEC Site

bcc: RO Chief, FS&EB
RO:HQ (4)
Licensing (4)
DR Central Files
RO Files
Regions I & II
PDR
Local PDR
NSIC
DTIE
OGC, Beth, P-506A

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

RO Inspection Report No. 050-331/73-11

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

Duane Arnold Energy Center
Palo, Iowa

License No. CPPR-70
Category: B

Type of Licensee: BWR, 538 Mwe

Type of Inspection: Routine, Unannounced

Dates of Inspection: August 7-9, 1973

Dates of Previous Inspection: July 25-27, 1973

Principal Inspector:

D. C. Boyd
D. C. Boyd

8-30-73
(Date)

Accompanying Inspector:

D. M. Hunnicutt
for C. Brown

8/30/73
(Date)

Reviewed By: D. M. Hunnicutt, Chief
Reactor Testing and Startup Branch

8/30/73
(Date)

SUMMARY OF FINDINGS

Enforcement Action

There were no enforcement actions identified as a result of this inspection.

Licensee Action on Previously Identified Enforcement Matters

All previously identified enforcement matters have been satisfactorily resolved.

Design Changes

Comments relative to design changes will be identified in reports prepared by the Directorate of Regulatory Operations, Construction Branch.

Unusual Occurrences

No unusual occurrences were determined or identified as a result of this inspection.

Other Significant Findings

A. Current Findings

Status Report

1. Engineering - 96.0% complete.
2. Construction - 92.1% complete.
3. Fuel load target date - October 30, 1973.
4. AEC licensing examinations - mid-September 1973.
5. Preoperational/acceptance test procedures written - 96%
6. Preoperational/acceptance test procedures approved for performance - 61%.
7. Preoperational/acceptance test procedures performed - 12%.

B. Status of Previously Reported Unresolved Items

The inspector's determination of the status of previously identified outstanding or unresolved items are as follows:

1. Testing of Facility Communications Systems

The licensee stated that these systems will be functionally tested in accordance with written and approved procedures.^{1/2/}
(Paragraph 6.c.)

Management Interview

Persons Present

Iowa Electric Light and Power Company (IELP)

W. Barnum - Assistant to President, IELP Security Officer
L. Root - Duane Arnold Energy Center (DAEC) Assistant Project Manager
J. Wallace - IELP Production Manager
H. Rehrauer - IELP Project Engineering Supervisor
G. Hunt - DAEC Chief Engineer
E. Hammond - DAEC Assistant Chief Engineer
G. Cook - IELP Quality Assurance Manager
D. Wilson - DAEC Results Engineer
R. Rinderman - DAEC Quality Supervisor

Directorate of Regulatory Operations, Region III

D. Boyd, Principal Inspector
C. Brown, Reactor Inspector

Subjects Discussed

The following subjects were discussed:

- A. Preoperational/acceptance testing status. (Paragraph 1)
- B. Cold functional testing procedure. (Paragraph 4)
- C. Hot functional testing procedure. (Paragraph 4)
- D. Power ascension testing procedure. (Paragraph 2)

- 1/ RO:III Inspection Report No. 050-331/72-04.
- 2/ RO:III Inspection Report No. 050-331/72-08.

- E. Integrated containment leak rate testing. . (Paragraph 3)
- F. Operating Organization quality assurance program. (Paragraph 5)
- G. Miscellaneous items from the inspector's outstanding inspection item list. (Paragraph 6)

H. Operations Readiness Activities

1. Preoperational/Acceptance Testing Status

This testing program is in progress and is approximately 12% complete. (Paragraph 1)

2. Cold Functional Testing Procedure

An RO:III review of the final (unapproved) draft of this functional testing program indicates that an acceptable program has been developed. (Paragraph 4)

3. Hot Functional Testing Procedure

An RO:III review of the final (unapproved) draft of this functional testing program indicates that an acceptable program has been developed. (Paragraph 4)

4. Power Ascension Testing

The test specifications have been issued. A Regulatory review indicates several areas requiring further consideration. (Paragraph 2)

5. Integrated Leak Rate Testing

The preparation of the approved copy of this procedure is in progress. The test is tentatively scheduled to be performed in September 1973. (Paragraph 3)

6. Operating Organization Quality Assurance

The administrative procedures (directives) manual is in final preparation. This portion of the operating organization quality assurance program will be available for RO:III review during the month of September 1973. (Paragraph 5)

REPORT DETAILS

Persons Contacted

Iowa Electric Light and Power Company (IEL&P)

L. Root, DAEC Assistant Project Manager
G. Hunt, DAEC Chief Engineer
E. Hammond, DAEC Assistant
H. Rehrauer, IEL&P Project Engineering Supervisor
W. Kacer, Quality Assurance Engineer
G. Cook, IEL&P Quality Assurance Manager
D. Wilson, Results Engineer
W. Barnum, Assistant to the President, IELP Security Officer
J. Wallace, IELP Production Manager
R. Rinderman, DAEC Quality Supervisor
R. York, DAEC Operating Supervisor
J. Weeda, IEL&P Reactor and Plant Performance Engineer
K. Haas, IEL&P Reactor and Plant Performance Engineer
R. Hannen, IEL&P Reactor and Plant Performance Engineer

General Electric Company (GE)

J. Nickle, GE Startup Engineer

Nuclear Services Corporation (NSC)

G. Engle, DAEC Technical Staff on contract from NSC

1. Preoperational/Acceptance Test Program Status

The inspector met with the DAEC Results Engineer and other members of DAEC management to determine the current status of this program. As of August 7, 1973, the status is as follows:

	<u>Preoperational Tests</u>	<u>Acceptance Tests</u>
Approved by Iowa Electric	27	29
Bechtel Startup preparing approval copy	3	1
Initial Review by Iowa Electric in progress	3	1
Initial Review by Bechtel in progress	15	17
Procedures remaining to be written	1	2
Tests complete - under review	7	2
Tests in progress	6	3
Tests not yet started	36	45

2. Power Ascension Testing

A previous RO:III review of the start-up test specifications prepared by the General Electric start-up organization resulted in several areas requiring further discussion and clarification.^{3/} Subsequent discussions with the licensee, General Electric, and the Directorate of Reactor Licensing, have resulted in the following:

- a. The plant response to turbine and generator trips at various power levels is adequate as written.
- b. The licensee will provide a predicted critical configuration for the initial in sequence criticality.
- c. Further discussion and clarification is required regarding control rod calibrations during open vessel testing, and control rod calibrations at elevated power levels.

3. Integrated Leak Rate Testing

The inspector reviewed the final draft (unapproved) of the integrated leak rate test. Subsequent discussions with the licensee (telephone) have adequately clarified areas of RO:III concerns. The inspector stated that there were no further questions at this time. The inspector stated that it will be required that RO:III review the final approved procedure prior to initial fuel loading.

4. Cold and Hot Functional Testing

The inspector reviewed the final draft (unapproved) copies of the Cold Functional Test and the Hot Functional Test procedures and met for discussion sessions with the IELP Reactor and Plant Performance Engineers responsible for the preparation of these procedures. As a result of these reviews and discussions, it appears that the primary objectives of these tests are adequately acknowledged and that adequate integrated system performance is described to satisfy these objectives. Briefly, these primary objectives are:

- a. To assure that normal plant operating procedures, surveillance procedures and emergency procedures have been tested to the extent possible and have been verified to be acceptable.
(Cold and Hot Functional tests.)

3/ Ibid.

- b. To assure that each crew has had a chance to function together as a team to operate plant systems on an integrated basis and thus obtain operating experience. (Cold and Hot Functional Tests.)
- c. To assure that systems are capable of operating on an integrated basis without any unexpected operational problems. (Cold and Hot Functional Tests.)
- d. To assure that plant systems are ready for fuel loading. (Cold Functional Test.)

The inspector stated that it will be required that RO:III review the final approved copies of each of these test procedures prior to initial fuel loading. The inspector stated he had no further questions on these test procedures at this time.

5. Operating Organization Quality Assurance Program

The preparation of this program and the implementing procedures are in progress. According to the licensee, the operating Quality Assurance Manual (directives) will be ready for RO:III review by the end of August 1973.

The inspector received several drafts (unapproved) of Administrative Department organization procedures. The inspector commented that in many cases the authority for a given job description was not identified. A representative of the licensee stated that this omission had been recognized and that the authority for each job description would be identified in the final approved procedure.

The inspector reaffirmed that RO:III expects to see this program and the implementing procedures approved and the program implemented prior to initial fuel loading. The licensee stated that this is their understanding and intent.

6. Miscellaneous Inspection Items

a. Onsite Review Committee Functions

The inspector reviewed the meeting minutes for the following operations review committee meetings:

June 8, 1973
June 12, 1973
June 15, 1973
July 12, 1973
July 17, 1973
July 25, 1973
August 3, 1973

These reviews indicate that this committee is functioning as stated in the final safety analysis report and in accordance with the requirements of the proposed facility technical specifications.

b. Station Log Books

The inspector reviewed portions of each of the following log books which are currently in use by the licensee:

- (1) Preoperational testing jumper log.
- (2) Operating log.
- (3) Work permit log (construction oriented).
- (4) Maintenance request log.
- (5) Work order log (DAEC oriented).
- (6) Shift supervisor's log.
- (7) Radiograph log.
- (8) Standing instructions log.

No items of concern were noted.

c. Communications System Testing

The inspector inquired regarding the licensee's intent to perform functional testing of the plant's various communications systems. The licensee stated that it is their intent to complete formal testing of these systems prior to initial fuel loading.