

UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

TELEPHONE
(312) 856-2660

A. RO Inspection Report No. 050-331/74-04

Transmittal Date : March 22, 1974

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Regulatory Standards (3)
Licensing (13)
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B. RO Inquiry Report No. _____

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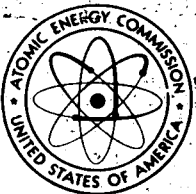
C. Incident Notification From: _____

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

Transmittal Date : _____

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(312) 858-2660

MAR 22 1974

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 Mr. Lonergan of this office on January 29-February 1, 1974, of activities at the Duane Arnold Energy Center authorized by AEC Construction Permit No. CPPR-70 and to the discussion of our findings with you, Mr. Hunt and others of your staff at the conclusion of the inspection.

A copy of our report of this inspection is enclosed and identifies the areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspector.

No violations of AEC requirements were identified within the scope of this inspection. However, certain items in the Duane Arnold Energy Center Emergency Plan were identified as needing further action. These items are contained in Paragraphs 5 and 6 of the Report Details Section of the enclosed inspection report and refer to fuel loading and power ascension respectively. It is our understanding that appropriate action will be taken to resolve these matters. We will examine these actions during a subsequent inspection.

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 and the enclosed inspection report will be placed in the AEC's Public Document Room. If this report contains any information that you or your contractors believe to be proprietary, it is necessary that you make a written application to this office, within twenty days of your receipt of this letter, to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so the proprietary information identified in the application is contained in a separate part of the document. Unless we receive an application to withhold information or are otherwise contacted within the specified time period, the written material identified in this paragraph will be placed in the Public Document Room.

MAR 2 1974

Iowa Electric Light and Power
Company

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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. 050-331/74-04

cc: G. Hunt, Chief Engineer
DAEC, w/o encl

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

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS

REGION III

Report of Emergency Planning

RO Inspection Report No. 050-331/74-04

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: Special, Announced

Dates of Inspection: January 29-February 1, 1974

Dates of Previous Inspection: January 24 and 25, 1974 (Construction)

Principal Inspector:

G. T. Lonergan
G. T. Lonergan

3/20/74
(Date)

Accompanying Inspectors: None

Other Accompanying Personnel: None

J. A. Pagliaro
Reviewed By: J. A. Pagliaro, Senior Environmental Scientist
Environmental and Special Projects Section

3/21/74
(Date)

SUMMARY OF FINDINGS

Enforcement Action: None.

Licensee Action on Previously Identified Enforcement Items

No previously identified enforcement items within the scope of this inspection.

Unusual Occurrences: None.

Other Significant Findings

A. Current Findings

This inspection included a review of those items identified in RO Inspection Report No. 050-331/73-19 as requiring action prior to fuel loading and contact with certain offsite support agencies. No unresolved items were identified during this inspection. However, the following items were identified as requiring further action. Commitments were made by DAEC representatives to accomplish the following items by the points in time indicated.

1. Items to be accomplished prior to Phase I

- a. Placement of respiratory protective devices. (Paragraph 5a)
- b. Approval of Preparedness Plan Implementing Procedures. (Paragraph 5b)
- c. Test of the emergency plan. (Paragraph 5c)
- d. Stocking and locating of emergency kits. (Paragraph 5d)
- e. Completion of stocking of equipment and materials in first aid room and personnel decontamination area. (Paragraph 5e)

2. Items to be accomplished prior to Phase IV

- a. Complete stocking of emergency coordination center. (Paragraph 6a)
- b. Complete plant personnel emergency training. (Paragraph 6b)
- c. Complete an onsite fire drill. (Paragraph 6c)
- d. Conduct a radiation emergency exercise. (Paragraph 6d)

- e. Complete stocking of alternate emergency coordination center. (Paragraph 6e)
- f. Complete action on contamination control measures and training at Mercy Hospital. (Paragraph 6f)

B. Status of Previously Unresolved Items

No previously unresolved items within the scope of this inspection.

Management Interview

A management interview was conducted with Messrs. Sandford, Hunt, Hammond, Graybeal, Renderman, Root, Ward, and Wilson at the conclusion of the inspection on February 1, 1974, at DAEC. The inspector discussed the scope of the inspection (Paragraph 2) and summarized the findings of this inspection. DAEC representatives made commitments to accomplish the actions as described in paragraphs 5 and 6.

REPORT DETAILS

1. Personnel Contacted

C. Sandford, Vice President, Engineering, Iowa Electric Light and Power Company
G. Hunt, Chief, Engineer, DAEC
G. Ward, Licensing Coordinator, Iowa Electric Light and Power Company
E. Hammond, Assistant Chief Engineer, DAEC
R. Renderman, Quality Supervisor, DAEC
L. Root, Assistant Project Manager, Iowa Electric Light and Power Company
D. Wilson, Results Engineer, DAEC
R. Graybeal, Radiation Protection Supervisor, DAEC
Lt. R. Reddick, Commander, District 11, Iowa State Highway Patrol, Cedar Rapids, Iowa
Sheriff W. Grant, Sheriff of Linn County, Iowa, Cedar Rapids, Iowa
Sheriff K. Poppenhagen, Sheriff of Benton County, Iowa, Vinton, Iowa
Dr. R. L. Morris, Associate Director, State Hygienic Laboratory, University of Iowa, Iowa City, Iowa
S. Mary Lawrence, Administrator, Mercy Hospital, Cedar Rapids, Iowa
Dr. John Huston, Jr., M.D., Medical Consultant, Iowa Electric Light and Power Company, Cedar Rapids, Iowa
Chief E. R. McMickle, Fire Chief, Cedar Rapids Fire Department, Cedar Rapids, Iowa

2. General

The inspection of January 29-February 1, 1974, included (1) a review of the findings contained in RO Inspection Report No. 050-331/73-19, (2) a review of the current status of Plant Preparedness Implementing Procedures (PIIP), (3) a tour of certain facilities and areas of the plant directly related to emergency response, (4) representatives of the following offsite emergency support agencies were visited: The Sheriff's Office of Linn and Benton County, State Hygienic Laboratory, Iowa State Highway Patrol, Mercy Hospital, and IELP's Medical Consultant.

3. Status of Items Identified in Previous Inspections

The following describes the status as of the time of this inspection of those items identified in RO Inspection Report No. 050-331/73-19 as requiring action prior to initiation of fuel loading operations.

a. Updating of Table I Offsite Emergency Support Groups of the Preparedness Plan

Regular and off-hours contact points for emergency support groups have been incorporated into PPIP-12 which is entitled "Procedural Plan of Contact Offsite Emergency Support Agencies." However, PPIP-12, Table I, does not contain the phone contact for the Sheriff of Benton County.

b. Placement of Emergency Equipment and Supplies in the Emergency Coordination Center, DAEC First Aid Room, and Personnel Decontamination Area

Action on these items were not complete at the time of this inspection; however, it was apparent that effort toward the accomplishment of the necessary tasks was progressing.

c. Updating Letters of Agreement

Letters of agreement from those agencies listed in PPIP-12 had been received during January 1974 in all cases except the Palo Fire Department. A licensee representative informed the inspector via phone on February 4, 1974, that a letter of agreement had been received from the Palo Fire Department on that date. However, the letter of agreement had not been received from the Benton County Sheriff's Office.

d. Completion of Procedures and Testing of Communications Designated for Use in Emergencies and Audible Alarm Signals

Procedures had been written for the above tests; however, only one of the tests had been completed. Therefore, a review of these procedures was postponed until the next inspection.

e. Documentation of Personnel Accountability Procedures

The draft PPIP-1 Emergency Evacuation of Onsite Personnel, describes, generally, the methods planned for use in accounting for personnel during an evacuation.

f. Training of Onsite Personnel Covering Appropriate Response to Evacuation Alarm and Personnel Accountability Procedures

At the time of this inspection, training of all onsite personnel on the topics referred to above, had been initiated.

g. Development of Detailed Written Procedures to Effectively Implement the Preparedness Program

Draft copies of the PPIP's were available and at that time were undergoing final review prior to approval by DAEC Management.

h. Referencing of Procedures for Coping with Bomb Threats and Civil Disturbances in the PPIP's

The draft copy of PPIP-12 references a security procedure for handling bomb threats.

i. Conduct a Radiation Emergency Drill

Plans have been developed for the conduct of a five point emergency drill prior to fuel loading by DAEC personnel.

4. Coordination

a. Local Law Enforcement Agencies

Representatives of local law enforcement agencies visited by the inspector included the Sheriff's of Linn and Benton County and the Commander of District 11 of the Iowa State Highway Patrol. It was determined that DAEC representatives had contacted and provided initial training for representatives of the above named organizations. The training consisted of a tour of the DAEC plant, indoctrination in general radiation protection topics, exposure control, communications means and evacuation methods.

DAEC representatives have also provided assistance to the above agencies in the initial development of response procedures. Coordination of response effort between Linn and Benton County Sheriff's Departments has been initiated. All of the local law enforcement agencies contacted indicated they have a capability to communicate with each other and DAEC. Those local law enforcement agencies contacted were apprised of the existence, capabilities, mission, and methods of requesting assistance through the Interagency Radiological Assistance Plan.

b. Fire Department

The Chief of the Cedar Rapids, Iowa Fire Department was contacted by the inspector during this inspection. It was learned that DAEC representatives have made contact with this organization and have provided training similar to that provided the local law enforcement agency personnel. Emphasis was placed on the in-plant fire protection system. At the time of this inspection, arrangements for Cedar Rapids Fire Department to respond to DAEC were based on a mutual aid agreement with the Palo, Iowa Fire Department.

c. Hospital

The Administrator of Mercy Hospital in Cedar Rapids and Iowa Electric Light and Power Company's Medical Consultant were visited by the inspector at Mercy Hospital. The hospital has been contacted by licensee representatives who have provided some assistance in the preparation of their facilities for the receipt and treatment of contaminated injury victims. Dr. John Huston, Jr., M.D., the licensee's medical consultant, has attended training sessions for the treatment of patients exposed to radiation and/or contaminated with radioactive materials. These sessions were held in New York and Oak Ridge National Laboratory. At the time of this inspection, none of the hospital emergency response personnel had received training from DAEC representatives or Dr. Huston. However, materials were being collected for the training of emergency response personnel by Dr. Huston and DAEC Radiation Protection Supervisor. No definite schedule had been established by hospital personnel for retraining of emergency room medical personnel pertaining to the treatment of radiation accident victims.

Procedures have been developed and are available at the hospital for the treatment of radiologically contaminated patients. Nearby the Emergency Operating Room for Radiologically Contaminated Patients (EOR-RCP) a hospital preparation kit is available which contains essentially those items listed in

Appendix III of the DAEC Preparedness Plan. In addition, the hospital preparedness kit contains a portable radiation detection instrument, an E-140 with an end window probe which is maintained by DAEC representatives. Contamination control in the EOR-RCP calls for the removal and/or sealing off with plastic sheeting the storage cabinets within the room. Positive measures for the control of airborne contamination did not exist at the time of this inspection. However, DAEC representatives indicated that a high efficiency air particulate filter has been ordered and will be installed on the EOR-RCP at Mercy Hospital. It was noted that a treatment table has been modified for the collection of possible liquid contaminants. No positive liquid contamination control measures have been provided for the floor drain and wash basin in the EOR-RCP. The necessity of pursuing positive measures for control of airborne and liquid contaminants in the EOR-RCP at Mercy Hospital was discussed with a DAEC representative.

No personnel monitoring devices are provided at the EOR-RCP by DAEC for evaluation of the radiation exposure of the hospital staff who would be directly involved in treatment of radiation accident victims.

d. State Hygienic Laboratory

A draft document entitled, "Radiation Incident Response for the Department of Environmental Quality (DEQ)" dated December 1973, outlines the procedure for notification of the State Hygienic Laboratory, as a response agency for radiological assistance. The draft plan assigns the responsibility for assessing the radiological hazard to the public at an incident site to the State Hygienic Laboratory radiological response team. The Associate Director of the State Hygienic Laboratory was contacted during this inspection. The proposed organization and capabilities of the radiological response unit were discussed along with plans for training of assigned individuals. As stated by a representative of Iowa's DEQ, the document, "Radiation Incident Response for Department of Environmental Quality" is to be appended to the overall State of Iowa Emergency Plan. The State representative also stated that the Iowa Emergency Plan has been drafted and submitted to the pertinent state agencies for comment at the time of this inspection.

e. Participation of Offsite Support Agencies in an Emergency Drill

At the time of this inspection, none of the offsite support agencies had participated in a radiation emergency drill with DAEC representatives.

5. Items to be Accomplished Prior to Fuel Loading

Commitments were made by DAEC representatives, during the management interview on February 1, 1974, to accomplish the actions indicated in the items described below prior to fuel loading.

a. Placement of Respiratory Protective Devices

A sufficient quantity of appropriate respiratory protective devices will be placed in a location readily accessible to those individuals directly involved in fuel loading activities.

b. Preparedness Plan Implementing Procedures (PPIP's)

Management approved copies of the currently available eighteen draft PPIP's will be available for use.

c. Test of the Emergency Plan

- (1) Conduct an emergency drill to include an evacuation and accounting of all IE and GE personnel in accord with PPIP-1 with Bechtel and subcontractor personnel excepted.
- (2) Contact Linn County Sheriff and arrange to have two site access roads secured. The time required to accomplish these activities will be determined. Communications capabilities between the Emergency Director and the road block vehicles will also be determined.
- (3) A communications check with all support agencies listed in PPIP-12, Procedural Plan to Contact Offsite Support Agencies, will be conducted. Individuals responding to these calls will be requested to give their understanding of actions to be taken on their part in an actual emergency.
- (4) A contaminated injury drill in conjunction with Mercy Hospital in Cedar Rapids will be conducted. This phase of the drill will include the making of the initial call for an ambulance, the timing of its response, transport of a simulated contaminated injury victim to the hospital, and observation procedures implemented at the hospital to include the isolation of the EOR-RCP.

d. Stocking and Locating Emergency Kits

The stocking of the emergency kits will be completed and the kits will be placed in the following locations: the Control Room, the Emergency Coordinating Center, the Alternate Emergency Coordinating Center, and IELP Building in Cedar Rapids.

e. Stocking of Equipment and Materials in First Aid Room and Personnel Decontamination Area

The essential items of equipment and materials required for first aid and personnel decontamination will be placed in their respective areas.

6. Items to Be Accomplished Prior to Phase IV - (Power Ascension Program)

The following emergency preparedness items were identified as requiring action by DAEC personnel prior to Phase IV. A commitment to accomplish the actions described below was made by DAEC during the management interview on February 1, 1974.

a. Emergency Coordination Center

Items specified as being located in the Preparedness Plan item 4.2.1 shall be placed in service in the emergency coordination center.

b. Plant Personnel Emergency Training

The training outlined in PPIP-13 Plant Personnel Emergency Training will be completed. The training outlined in the above procedure pertains to those individuals who could potentially be designated as Emergency Director and Emergency Monitoring personnel.

c. Onsite Fire Drill

An onsite fire drill will be conducted in accord with PPIP-15, "Onsite Drills for Local Fire Department." The purpose being to familiarize members with general plant layout and plant fire suppression capabilities and locations.

d. Conduct a Radiation Emergency Exercise

A radiation emergency exercise will be conducted in accord with PPIP-14. The exercise will be conducted in a manner to test the capability of all the PPIP's to provide control of the exercise situation.

e. Alternate Emergency Coordination Center AECC)

In addition to the stocking of equipment and materials in the AECC, as described in Section 4.0 Item 4.2.2 in the Preparedness Plan, an operable instrument capable of evaluating air samples will be available in the AECC along with other appropriate decisional aides.

f. Contaminant Control Measures and Training at Mercy Hospital

Modification of the ventilation system to include the installation of a high efficiency filter in the EOR-RCP will be accomplished. Modification of the floor and sink drains will be accomplished in a manner so as to assure control and collection of potentially radioactive contaminated liquids.

Assistance will be provided in the modification of the written procedures for handling radioactivity contaminated patients to assure the implementation of the above described airborne and liquid contamination control measures.

Assistance will be provided hospital personnel in the development and conduct of a training program to be presented to essential hospital emergency room personnel. This program will include (1) instruction in the area of basic exposure and contamination control measures, (2) those measures specifically applicable to the Mercy Hospital EOR-RCP, and (3) the instruction to be provided by IE's medical consultant.

7. State Emergency Plan

A review of the current status of the State of Iowa Emergency Plan and the importance of maintaining contact with State agencies responsible for notification, coordination, response and evaluation of radiological aspects of the plan was discussed with DAEC representatives during this inspection and at the management interview.