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JUN 9 1975

Docket No.' 50-331

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 9 to Facility Operating License No. DPR-49 for the Duane Arnold Energy Center. The amendment includes Change No. 10 to the Technical Specifications and is in response to your request dated January 13, 1975.

The amendment modifies those portions of the license and Technical Specifications which relate to the receipt, possession and use of byproduct, source, and special nuclear material.

Copies of the related Safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

/S/

George Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing

Enclosures:
1. Amendment No. 9
2. Safety Evaluation
3. Federal Register Notice

cc: See next page

CP (1)

OFFICE	ORB#3	ORB#3	OELD	ORB#3		
SURNAME	SATeets:kmf	WPaulson:kmf		GLear		
DATE	5/28/75	5/28/75	6/3/75	6/3/75		

Form AEC-318 (Rev. 9-53) AECM 0240

☆ U. S. GOVERNMENT PRINTING OFFICE: 1974-526-166

Iowa Electric Light & Power Company JUN 8 1975

cc: w/enclosure

Jack R. Newman, Esquire
Harold R. Reis, Esquire
Lowenstein, Newman, Reis and Axelrad
1025 Connecticut Avenue, N. W.
Washington, D. C. 20036

Anthony Z. Roisman, Esquire
Berlin, Roisman & Kessler
1712 N. Street, N. W.
Washington, D. C. 20036

Office for Planning and Programming
523 East 12th Street
Des Moines, Iowa 50319

Mr. Dudley Henderson
Chairman, LinnCounty
Board of Supervisors
Cedar Rapids, Iowa 52406

Mr. Ed Vest
Environmental Protection Agency
Region VII Office
1735 Baltimore Avenue
Kansas City, Missouri 64108

Reference Service
Cedar Rapids Public Library
426 Third Avenue, S. E.
Cedar Rapids, Iowa 52401

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

IOWA ELECTRIC LIGHT AND POWER COMPANY

CENTRAL IOWA POWER COMPANY

CORN BELT POWER COOPERATIVE

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 9
License No. DPR-49

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Iowa Electric Light and Power Company, Central Iowa Power Company, and Corn Belt Power Cooperative (the licensees) dated January 13, 1975, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations; and

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

   E. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70 (including 10 CFR Section 30.33, 40.32, 70.23 and 70.31).

2. Accordingly, Facility License No. DPR-49 is hereby amended as indicated below:

A. Delete paragraphs 2.B.(2) through 2.B.(4) and replace with the following:

"2.B. (2) IELP, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended as of January 1, 1975.

(3) IELP, pursuant to the Act and 10 CFR Parts 30, 40 and 70 to receive, possess and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) IELP, pursuant to the Act and 10 CFR Part 30 to receive, possess and use at any time 100 millicuries each of any byproduct material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactively contaminated apparatus with the exception of sodium 24 of which the total is not to exceed two curies;

(5) IELP, pursuant to the Act and 10 CFR Parts 40 and 70 to receive, possess and use at any time 100 milligrams each of any source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactively contaminated apparatus.

(6) IELP, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

B. Revise paragraphs 2.C. and 2.C.(2) to read as follows:

"C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I; Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 10."

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

George Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing

Attachment:
Change No. 10 to the
Technical Specifications

Date of Issuance:
JUN 3 1975

ATTACHMENT TO LICENSE AMENDMENT NO. 9

CHANGE NO. 10 TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Add the following new pages: 6.9-12, 6.9-13 and 6.9-14

Replace pages 6.10-1 and 6.10-2 with the attached revised pages (no change made on page 6.10-2).

SPECIFICATION	SURVEILLANCE REQUIREMENT
6.9.2 Source Leakage Test	7.9.2 Source Leakage Test
A. Radioactive sources shall be leak tested for contamination. The leakage test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, it shall immediately be withdrawn from use, decontaminated, and repaired, or be disposed of in accordance with Commission regulations. Those quantities of by-product material that exceed the quantities listed in 10 CFR 30.71 Schedule B are to be leak tested in accordance with the schedule shown in Surveillance Requirements. All other sources (including alpha emitters) containing greater than 0.1 microcurie are also to be leak tested in accordance with the Surveillance Requirements.	A. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an agreement State, as follows: 1. Each sealed source, except startup sources subject to core flux, containing radioactive material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. 2. The periodic leak test required does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another user unless they have been leak tested within six months prior to the date of use or transfer. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, sealed sources shall not be put into use until tested. 10 3. Startup sources shall be leak tested prior to and following any repair or maintenance and before being subjected to core flux.

SPECIFICATION

B. Reporting Requirements

Results of the leak tests performed on sources shall be included in the Annual Operating Report if the tests reveal the presence of 0.005 microcurie or more of removable contamination.

10

6.9.2 BASES

Ingestion or inhalation of source material may give rise to total body or organ irradiation. This specification assures that leakage from radioactive material sources does not exceed allowable limits. In the unlikely event that those quantities of radioactive by-product materials of interest to this specification which are exempt from leakage testing are ingested or inhaled, they represent less than one maximum permissible body burden for total body irradiation. The limits for all other sources (including alpha emitters) are based upon 10 CFR 70.39(c) limits for plutonium.

10

6.10 RECORDS RETENTION

6.10.1 The following records shall be retained for at least 5 years:

1. Records and logs of facility operation covering time interval at each power level.

2. Records and logs of principal maintenance activities, inspections, and repair and replacement of principal items of equipment related to nuclear safety.

3. Abnormal occurrence reports.

4. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.

5. Records of reactor tests and experiments.

6. Records of changes made to Operating Procedures.

7. Records of radioactive shipments.

8. Records of sealed source leak test and results.

9. Records of annual physical inventory verifying accountability of sources on record.

10

6.10.2 The following records shall be retained for the duration of the Facility Operating License.

1. Record and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.

2. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.

3. Records of facility radiation and contamination surveys.

4. Records of radiation exposure for all individuals entering radiation control areas.

5. Records of gaseous and liquid radioactive material released to the environment.

6. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 9 TO LICENSE NO. DPR-49

IOWA ELECTRIC LIGHT AND POWER COMPANY

CENTRAL IOWA POWER COOPERATIVE

CORN BELT POWER COOPERATIVE

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

Introduction

By letter dated January 13, 1975, Iowa Electric Light and Power Company (IELP) proposed a license amendment to Facility Operating License DPR-49 for the Duane Arnold Energy Center.

The proposed amendment involves the modification of those parts of the Facility Operating License which relate to the receipt, possession, and use of byproduct, source, and special nuclear material.

In support of the proposed license amendment, IELP has:

a. Proposed Technical Specification changes which (1) provide for leakage testing of miscellaneous radioactive materials sources, (2) establish surveillance requirements for the leakage tests, and (3) require retention of leakage test results.

b. Updated the Radioactive Materials Safety portion of the Final Safety Analysis Report (FSAR) for the Duane Arnold Energy Center.

Discussion

By letter dated December 16, 1974, we requested that nuclear power facility licensees provide: (1) proposed amendments to the conditions of existing Facility Operating Licenses which relate to the receipt, possession, and use of byproduct, source, and special nuclear materials; (2) proposed Technical Specification changes which provide for leakage testing and the related surveillance and reporting requirements for miscellaneous radioactive material sources; (3) FSAR revisions to include information described in Regulatory Guide 1.70.3, "Additional Information, Radioactive Materials Safety For Nuclear Power Plants", of February 1974. Our letter included

standard formats and guidelines for the requested proposals.

The objective of the requests made in our letter of December 16, 1974 was to add flexibility to the operation of nuclear power plants by establishing a more generalized approach to the licensing of byproduct, source, and special nuclear materials. This objective would reduce the number of licensing actions required as a result of changes in possession limits of related materials. In order to assure that adequate safeguards be maintained within the framework of this more generalized approach, provisions for more stringent control, accountability, and leakage testing of byproduct, source and special nuclear materials were included.

IELP's letter of January 13, 1975, was submitted in response to our December 16, 1974 letter.

Evaluation

The proposed Technical Specification changes and the FSAR revisions have been reviewed by the NRC staff with particular attention to the Radioactive Materials Safety program. We evaluated the personnel qualifications, facilities, equipment, and procedures for handling byproduct, source, and special nuclear material, as described in the revised FSAR and we conclude that they are consistent with the provisions of Regulatory Guide 1.70.3. Based on our review, we also conclude that the comprehensive testing and surveillance program,as established by the proposed Technical Specification changes, provides additional assurance that leakage from radioactive material sources will not exceed allowable limits.

We evaluated IELP's request that they be authorized to receive, possess, and use up to two curies of sodium 24. Because of the short half life of sodium 24 (15 hours), we conclude that this quantity does not present a significant safety hazard to the utility staff or to the public, when used for tests as proposed by the licensee.

We further conclude that the proposed license amendment, as supported by the proposed Technical Specification changes and the FSAR revisions, are acceptable in that they:

a. Comply with the guidance and intent of our letter of December 16, 1974.

b. Assure that the amount of reactor fuel which can be received, used, and possessed is limited by the onsite fuel storage capacity and the requirements for reactor operation which have been approved previously by the NRC staff and which are described in the FSAR as of January 1, 1975.

c. Provide reasonable assurance that byproduct, source, and special nuclear material will be stored, used, and accounted for in a manner which meets the applicable radiation protection provisions of 10 CFR Parts 20, 30, 40, and 70.

Summary

The licensee's radiation protection program, as supplemented by the FSAR revisions and the proposed Technical Specifications additions, has been evaluated. We have concluded that the incorporation of flexible yet controlled licensing provisions for the receipt, possession, and use of byproduct, source, and special nuclear material into the Facility Operating License for Duane Arnold Energy Center is acceptable.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's reglations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: JUN 3 1975

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-331

IOWA ELECTRIC LIGHT AND POWER COMPANY

CENTRAL IOWA POWER COOPERATIVE

CORN BELT POWER COOPERATIVE

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 9 to Facility Operating License No. DPR-49 issued to Iowa Electric Light and Power Company, Central Iowa Power Cooperative, Corn Belt Power Cooperative for operation of the Duane Arnold Energy Center, located in Linn County, Iowa. The amendment is effective as of the date of issuance.

The amendment changes the Facility License and the Technical Specifications to permit generalized provisions for the receipt, possession, and use of byproduct, source, and special nuclear material.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.

For further details with respect to this action, see (1) the application for amendment dated January 13, 1975, (3) Amendment No. 9 to License No. DPR-49 with Change No. 10, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Cedar Rapids Public Library, 426 Third Avenue, S. E., Cedar Rapids, Iowa 52401

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention; Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this 3rd day of June, 1975.

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

George Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing