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Docket No. 50-331

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

Gentlemen:

The Commission has requested the Federal Register to publish the enclosed Notice of Proposed Issuance of Amendment to Facility License No. DPR-49 for the Duane Arnold Energy Center. The proposed amendment includes a change to the Technical Specifications based on our letter to you dated September 23, 1975 and your response dated October 13, 1975.

The amendment would revise the Technical Specifications to (1) add requirements that would limit the period of time operation can be continued with immovable control rods that could have control rod drive mechanism collet housing failures and (2) require increased control rod surveillance when the possibility of a control rod drive mechanism collet housing failure exists.

A copy of our Safety Evaluation relating to this proposed action was forwarded to you with our letter dated September 23, 1975.

Sincerely,

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

Enclosures:
1. Federal Register Notice
2. Proposed Amendment w/Proposed Technical Specification changes

OFFICE	ORB#3	ORB#3	ORB#3	OELD	
SURNAME	CParrish	WPaulson:acr	GLear	D Swanson	
DATE	12/ 10 /75	12/ 10 /75	12/ 24 /75	12/ 19 /75	12/ /75

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

December 29, 1975

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Security Building
P. O. Box 351
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George Lear, Chief
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Enclosures:
1. Federal Register Notice
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

UNITED STATES NUCLEAR REGULATORY COMMISSION

IOWA ELECTRIC LIGHT AND POWER COMPANY

CENTRAL IOWA POWER COMPANY

CORN BELT POWER COOPERATIVE

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

PROPOSED AMENDMENT TO
FACILITY OPERATING LICENSE

Amendment No.
License No. DPR-49

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

   A. 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

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

2. Accordingly, the license is amended by a change to the Technical Specifications as indicted in the attachment to this license amendment and Paragraph 3.B of Facility License No. DPR-49 is hereby amended to read as follows:

   "B. Technical Specifications

   The Technical Specifications contained in Appendix A, 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. ."

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

FOR THE NUCLEAR REGULATORY COMMISSION

Karl R. Goller, Assistant Director
for Operating Reactors
Division of Reactor Licensing

Attachment:
Change No. to the
Technical Specifications

Date of Issuance:

ATTACHMENT TO PROPOSED LICENSE AMENDMENT

PROPOSED CHANGE TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Delete existing pages 3.3-1, 3.3-2 and 3.3-12 of the Technical Specifications and insert the attached revised pages. The changed areas on the revised pages are shown by marginal lines.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
3.3 REACTIVITY CONTROL	4.3 REACTIVITY CONTROL
Applicability:	Applicability:
Applies to the operational status of the control rod system.	Applies to the surveillance requirements of the control rod system.
Objective:	Objective:
To assure the ability of the control rod system to control reactivity.	To verify the ability of the control rod system to control reactivity.
Specification:	Specification:
A. Reactivity Limitations	A. Reactivity Limitations
1. Reactivity margin - core loading	1. Reactivity margin - core loading
A sufficient number of control rods shall be operable so that the core could be made subcritical in the most reactive condition during the operating cycle with the strongest control rod fully withdrawn and all other operable control rods fully inserted.	Sufficient control rods shall be withdrawn following a refueling outage when core alterations were performed to demonstrate with a margin of 0.38 Δ k/k that the core can be made subcritical at any time in the subsequent fuel cycle with the analytically determined strongest operable control rod fully withdrawn and all other operable rods fully inserted.
2. Control Rod Exercise	2. Control Rod Exercise
a. Control rods which cannot be moved with control rod drive pressure shall be considered inoperable. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure the reactor shall be brought to a shutdown condition within 48 hours unless investigation demonstrates that the cause of the failure is not due to a failed control rod drive mechanism collet housing.	a. Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week when operating above 30% power. This test shall be performed at least once per 24 hours in the event power operation is ontinuing above 30% power with two or more inoperable control rods or in the event power operation is continuing above 30% power with one fully or partially withdrawn rod which cannot be moved and for which control rod drive mechanism damage has not been ruled out. The surveillance need not be completed within 24 hours if the number of inoperable rods has been reduced to less than two and if it has been demonstrated that control rod drive mechanism collet housing failure is not the cause of an immovable control rod.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
b. The control rod directional control valves for inoperable control rods shall be disarmed electrically and the control rods shall be in such positions that Specification 3.3.A.1 is met.	b. A second licensed operator shall verify the conformance to Specification 3.3.A.2d before a rod may be bypassed in the Rod Sequence Control System.
c. Control rods with inoperable accumulators or those whose position cannot be positively determined shall be considered inoperable.	c. Once per week when the plant is in operation, check status of pressure and level alarms for each CRD accumulator.
d. Control rods with a failed "Full-in" or "Full-out" position switch may be bypassed in the Rod Sequence Control System and considered operable if the actual rod position is known. These rods must be moved in sequence to their correct positions (full-in on insertion or full-out on withdrawal).	
e. Control rods with scram times greater than those permitted by Specification 3.3.C.3 are inoperable, but if they can be inserted with control rod drive pressure they need not be disarmed electrically.	
f. Inoperable control rods shall be positioned such that Specification 3.3.A.1 is met. In addition,	

maximum contribution to shutdown reactivity. If it is disarmed electrically in a non-fully inserted position, that position shall be consistent with the shutdown reactivity limitation stated in Specification 3.3.A.1. This assures that the core can be shut down at all times with the remaining control rods assuming the strongest operable control rod does not insert. Inoperable bypassed rods will be limited within any group to not more than one control rod of a (5 x 5) twenty-five control rod array. If damage within the control rod drive mechanism and in particular, cracks in drive internal housings, cannot be ruled out, then a generic problem affecting a number of drives cannot be ruled out. Circumferential cracks resulting from stress assisted intergranular corrosion have occurred in the collet housing of drives at several BWRs. This type of cracking could occur in a number of drives and if the cracks propagated until severance of the collet housing occurred, scram could be prevented in the affected rods. Limiting the period of operation with a potentially severed collet housing and requiring increased surveillance after detecting one stuck rod will assure that the reactor will not be operated with a large number of rods with failed collet housings. The use of the individual rod bypass switches in the Rod Sequence Control System to substitute for a failed "full in" or "full out" position switch will not be limited as long as the actual position of the control rod is known.

2. Control Rod Withdrawal

   a. Control rod drop accidents as discussed in the FSAR can lead to significant core damage. If coupling integrity is maintained, the possibility of a rod drop accident is eliminated. The overtravel position feature provides a positive check as only uncoupled

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-331

IOWA ELECTRIC LIGHT AND POWER COMPANY

CENTRAL IOWA POWER COMPANY

CORN BELT POWER COOPERATIVE

NOTICE OF PROPOSED ISSUANCE OF AMENDMENTS
TO FACILITY OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendment to Facility Operating License No. DPR-49 issued to Iowa Electric Light and Power Company Central Iowa Power Company Corn Belt Power Cooperative (the licensees) for operation of the Duane Arnold Energy Center (the facility) located near Palo in Linn County, Iowa.

The amendment would revise the Technical Specifications to (1) add requirements that would limit the period of time operation can be continued with immovable control rods that could have control rod mechanism collet housing failures and (2) require increased control rod surveillance when the possibility of a control rod drive mechanism collet housing failure exists.

Prior to issuance of the proposed license amendment, the Commission will have made the findings required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations.

By 9 Feb. 76 , the licensees may file a request for a hearing and any person whose interest may be affected by this proceeding may file a request for a hearing in the form of a petition for leave to intervene with respect to the issuance of these amendments to the subject

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DATE➤						

facility operating licenses. Petitions for leave to intervene must be filed under oath or affirmation in accordance with the provisions of Section 2.714 of 10 CFR Part 2 of the Commission's regulations. A petition for leave to intervene must set forth the interest of the petitioner in the proceeding, how that interest may be affected by the results of the proceeding, and the petitioner's contentions with respect to the proposed licensing action. Such petitions must be filed in accordance with the provisions of this FEDERAL REGISTER notice and Section 2.714, and must be filed with the Secretary of the Commission, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Docketing and Service Section, by the above date. A copy of the petition and/or request for a hearing should be sent to the Executive Legal Director, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555 and to Jack R. Newman, Esquire, Harold F. Reis, Esquire, Lowenstein, Newman, Reis and Axelrad, 1025 Connecticut Avenue, N.W., Washington, D.C. 20036, the attorney for the licensee.

A petition for leave to intervene must be accompanied by a supporting affidavit which identifies the specific aspect or aspects of the proceeding as to which intervention is desired and specifies with particularity the facts on which the petitioner relies as to both his interest and his contentions with regard to each aspect on which intervention is requested. Petitions stating contentions relating only to matters outside the Commission's jurisdiction will be denied.

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DATE➤						

All petitions will be acted upon by the Commission or licensing board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel. Timely petitions will be considered to determine whether a hearing should be noticed or another appropriate order issued regarding the disposition of the petitions.

In the event that a hearing is held and a person is permitted to intervene, he becomes a party to the proceeding and has a right to participate fully in the conduct of the hearing. For example, he may present evidence and examine and cross-examine witnesses.

For further details with respect to this action, see the Commission's letter to Iowa Electric Light & Power Company dated September 23, 1975 and the attached proposed Technical Specifications and the Safety Evaluation by the Commission's staff dated September 23, 1975 and Iowa Electric Light and Power Company's letter dated October 13, 1975, which 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. These license amendments and the Safety Evaluation may be inspected at the above locations and a copy 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 29 day of Dec 1975

FOR THE NUCLEAR REGULATORY COMMISSION

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

OFFICE➤	ORB#3	ORB#3	ORB#3	OELD	
SURNAME➤	CParrish	WPaulson:acr	GLear	D Swanson	
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