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Docket No. 50-298

DEC 0 4 1975

Nebraska Public Power District
ATTN: Mr. J. M. Pilant, Director
Licensing and Quality Assurance
Post Office Box 499
Columbus, Nebraska 68601

Gentlemen:

The Commission has requested the Federal Register to publish the enclosed Notice of Proposed Issuance of Amendment to Facility License No. DPR-46 for the Cooper Nuclear Station. The proposed amendment includes a change to the Technical Specifications based on our letter to you dated September 22, 1975. It is our understanding that the change proposed in our letter of September 22, 1975, is acceptable to you.

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.

Copies of our proposed license amendment with proposed changes to the Technical Specifications also are enclosed. A copy of our Safety Evaluation relating to this proposed action was forwarded to you with our letter dated September 22, 1975.

Sincerely,
Original Signed by:
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing

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

Concur

OFFICE ▶	RL:ORB #2	RL:ORB #2	RL:ORB #2	OELD		RL:ORB#2	
SURNAME ▶	RMDiggs:ah	MFlecther	RDSilver	D Swanson		DLZiemann	
DATE ▶	11/20/75	11/20/75	11/21/75	12/03/75		12/04/75	

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1974 — 555-338

DEC 0 3 1975

cc w/enclosures:
Gene Watson, Attorney
Barlow, Watson & Johnson
P. O. Box 81686
Lincoln, Nebraska 68501

Mr. Arthur C. Gehr, Attorney
Snell & Wilmer
400 Security Building
Phoenix, Arizona 85004

Auburn Public Library
1118 - 15th Street
Auburn, Nebraska 68305

cc w/enclosures and cy of NRC's
ltr. of 9/22/75 w/SER to NPPD:
Mr. William Siebert, Commissioner
Nemaha County Board of Commissioners
Nebraska County Courtroom
Auburn, Nebraska 68305

Mr. D. Drain, Director
Department of Environmental Control
Executive Building, 2nd Floor
Lincoln, Nebraska 68509

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 590-298

NEBRASKA PUBLIC POWER DISTRICT

NOTICE OF PROPOSED ISSUANCE OF AMENDMENT
TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of amendment to Facility Operating License No. DPR-46 issued to Nebraska Public Power District (the licensee) for operation of the Cooper Nuclear Station (the facility), a boiling-water reactor located in Nemaha County, Nebraska.

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.

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 JAN 12 1976 , the licensee 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

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SURNAME ▶						
DATE ▶						

with respect to the issuance of the amendment to the subject facility operating license. 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 Commision, Washington, D. C. 20555, and to Mr. Gene Watson, Attorney, Barlow, Watson & Johnson, P. O. Box 81686, Lincoln, Nebraska 68501 and Mr. Arthur C. Gehr, Attorney, Snell & Wilmer, 400 Security Building, Phoenix, Arizona 85004, attorneys 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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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 Nebraska Public Power District dated September 22, 1975, and the attached proposed Technical Specifications and the Safety Evaluation by the Commission's staff dated September 22, 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 Auburn Public Library, 1118 - 15th Street, Auburn, Nebraska 68305. The license amendment 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, DEC 0 1 1975

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by:
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing

OFFICE ▶	RL:ORB #2	RL:ORB #2			OELD	RL:ORB #2
SURNAME ▶	RMDiggs	MHFletcher RDSilver			DSwanson	DLZiemann
DATE ▶	11/20/75	11/20/75			11/25/75	12/04/75

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NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

PROPOSED AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.
License No. DPR-46

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 indicated in the attachment to this license amendment and Paragraph 3.B of Facility License No. DPR-46 is hereby amended to read as follows:

   "B. 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. ."

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:

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DATE ►					

ATTACHMENT TO PROPOSED LICENSE AMENDMENT

PROPOSED CHANGE TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Delete existing pages 93 and 100 of the Technical Specifications and insert the attached revised pages 93, 93a, 100 and 100a. 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 to 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 alternations were performed to demonstrate, with a margin of 0.38% $\Delta k/k$, 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. Reactivity margin - inoperable control rods	2. Reactivity margin inoperable control rods
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 we week, when operating above 30% power. This test shall be performed at least once per 24 hours when operating above 30% power in the event power operation is continuing with three or more inoperable control rods or in the event power operation is continuing 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 three and if it has been demonstrated that control rod drive mechanism collect housing failure is not the cause of an immovable control rod.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
3.3 REACTIVITY CONTROL	4.3 REACTIVITY CONTROL
b. The control rod directional control valve for inoperable control rods shall be disarmed electrically.	b. A second licensed operator shall verify the conformance to Specification 3.3.A.2.d before a rod may be bypassed in the Rod Sequence Control System.
c. Control rods with scram times greater than those permitted by	c. Once per week, check the status of the pressure and level alarms for each accumulator.

cannot be moved with drive pressure. If the rod is fully inserted and then disarmed electrically*, it is in a safe position of 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 shutdown at all times with the remaining control rods assuming the strongest operable control rod does not insert. An allowable pattern for control rods valved out of service, which shall meet this Specification, will be determined and made available to the operator. The Rod Sequence Control System is not automatically bypassed until reactor power is at or above 22% power. Therefore, control rod movement is restricted and the exercise surveillance test is only performed above this power level. The Rod Sequence Control System prevents movement of out-of-sequence rods unless power is above 20%. Also 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 intergranualr 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.

B. Control Rod

1. Control rod dropout accidents as discussed in the FSAR can lead to significant core damage. If coupling integrity is maintained, the possibility of a rod dropout accident is eliminated. The overtravel position feature provides a positive check as only uncoupled drives may reach this position. Neutron instrumentation response to rod movement provides a verification that the rod is following its drive. Absence of such response to drive movement could indicate an uncoupled condition. Rod position indication is required for proper function of the rod sequence control system and the rod worth minimizer (RWM).

2. The control rod housing support restricts the outward movement of a control rod to less than 3 inches in the extremely remote event of a housing failure. The amount of reactivity which could be added by this small amount of rod withdrawal, which is less than a normal single withdrawal increment, will not contribute to any damage to the primary coolant system. The design basis is given in subsection III.8.2 of the

*To disarm the drive electrically, four Amphenol type plug connectors are removed from the drive insert and withdrawal solenoids rendering the rod incapable of withdrawal. This procedure is equivalent to valving out the drive and is preferred because, in this condition, drive water cools and minimizes crud accumulation in the drive. Eelectrical disarming does not eliminate position indication.

FSAR and the safety evaluation is given in subsection VIII.8.4. This support is not required if the reactor coolant system is at atmospheric pressure since there would then be no driving force to rapidly eject a drive housing. Additionally, the support is not required if all control rods are fully inserted and if an adequate shutdown margin with one control rod withdrawn has been demonstrated, since the reactor would remain critical even in the event of complete ejection of the strongest control rod.