

Docket No. 50-298

- Distribution  
 Docket File  
 AEC PDR  
 Local PDR  
 Branch Reading #2  
 HJMcAlduff  
 JRBuchanan  
 TBAbernathy  
 RBoyd  
 ACRS (16)  
 RO (3)  
 OGC  
~~JSaltzman~~  
 FLIngram  
~~HIMueller~~  
~~RLight Leith~~  
 WOMiller  
 PCollins

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

Gentlemen:

The Commission has issued the enclosed Amendment No. 2 to Facility License No. DPR-46. This amendment includes Change No. 5 to the Technical Specifications, Appendix A, and is in response to that portion of your request dated May 28, 1974, identified as Attachment 1.

The amendment permits the changing of instrument set points to conform with results of recent test data and clarifies the intent of existing surveillance requirements on coolant radioactivity.

The Safety Evaluation and the Federal Register Notice relating to this action are also enclosed.

Sincerely,

Karl R. Goller  
 Assistant Director  
 for Operating Reactors  
 Directorate of Licensing

- DLZiemann  
 JLSapir  
~~CHebron~~  
 NDube  
 BJones (4)  
 BScharf (15)  
 SMSheppard  
 SKari

*R. Diggs*

Enclosures:

1. Amendment No. 2
2. Safety Evaluation
3. Federal Register Notice

cc w/enclosures:  
 See next page

L:ORB #2

OFFICE >	JLSapir:aw	L:ORB #2	L:ORB #2	OGC	L:OR
SURNAME >	<i>JLSapir</i>	<i>SMSheppard</i>	DLZiemann	<i>J.S. COHEN</i>	KRGoller
DATE >	8/6/74	8/6/74	8/6/74	8/13/74	8/15/74

W/o Techs

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cc w/enclosures:  
 See next page

OFFICE →	L:ORB #2	L:ORB #2	L:ORB #2	OGC	L:OR
SURNAME →	JLSapir: rwg	SMSheppard	DLZiemann		KRGoller
DATE →	6/25/74	6/24/74	7/2/74	6/1/74	8/15/74

cc w/enclosures:

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

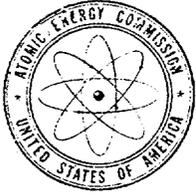
Mr. William Siebert, Commissioner  
Nemaha County Board of Commissioners  
Nebraska County Courtroom  
Auburn, Nebraska 68305

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

cc w/enclosures & cy NPPD  
ltr dtd 5/28/74:

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Department of Environmental Control  
Executive Building, 2nd Floor  
Lincoln, Nebraska 68509

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



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 2  
License No. DPR-46

1. The Atomic Energy Commission (the Commission) having found that:
  - A. The application for amendment by Nebraska Public Power District (the licensee) dated May 28, 1974, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulation set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the license, 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;
  - 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; and
  - E. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility License No. DPR-46 is hereby amended to read as follows:

"(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. 5."

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

FOR THE ATOMIC ENERGY COMMISSION

Karl R. Goller  
Assistant Director  
for Operating Reactors  
Directorate of Licensing

Attachment:  
Change No. 5 to Appendix A  
Technical Specifications

Date of Issuance:

ATTACHMENT TO LICENSE AMENDMENT NO. 2

CHANGE NO. 5 TO APPENDIX A OF TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

The Technical Specifications contained in Appendix A, attached to Facility Operating License No. DPR-46 are hereby changed as follows:

1. Page 56, Table 3.2.B (Page 4). Change setting limits of HPCI-dPIS-76 and HPCI-dPIS-77 from ( $\leq 180''$  &  $\geq -180''$  H<sub>2</sub>O) to ( $130 \leq S \leq 210''$  H<sub>2</sub>O and  $-130 \geq S \geq -210''$  H<sub>2</sub>O).
2. Page 58, Table 3.2.B (Page 6). Change setting limit of RCIC-dPIS-83 & 84 from ( $\leq +180''$  H<sub>2</sub>O) to ( $370'' \leq S \leq 620''$  H<sub>2</sub>O).
3. Replace existing pages 133a and 134 with the new pages 133a and 134 enclosed.

## LIMITING CONDITIONS FOR OPERATION

3.6 (cont'd.)

### B. Coolant Chemistry

1. The reactor coolant radioactivity concentration shall be maintained within the following limits:
  - a. Whenever the reactor is critical, the reactor coolant activity shall not exceed the equilibrium value of 3.1 uCi/gm of dose equivalent I-131.
  - b. The limit of 3.6.B.1.a above may be exceeded by a factor of 10 or less for a maximum of 48 hours following power transients. The reactor shall not be operated more than 5% of its annual power operation under this exception.
  - c. If the iodine concentration in the coolant exceeds the equilibrium limit by a factor greater than 10, the reactor shall be shutdown in an orderly manner and in the cold shutdown condition within 24 hours, and the steam line isolation valves shall be closed.

## SURVEILLANCE REQUIREMENTS

4.6 (cont'd.)

### B. Coolant Chemistry

- 1.a. A sample of reactor coolant shall be collected and analyzed for gross gamma activity as follows:
  1. At least every 96 hours whenever the reactor is critical.
  2. Prior to reactor startup.
  3. In the STARTUP mode, at 4-hour intervals following a power change exceeding 5% of rated power in one hour or less.
  4. In the RUN mode, at 4-hour intervals following a power change exceeding 20% of rated power in one hour or less.
  5. At 4-hour intervals following an off-gas activity increase of 10,000 uCi/sec measured at the SJAE.
  6. At 4-hour intervals whenever measurements indicate the equilibrium iodine concentration limit of 3.6.B.1 is exceeded, until a stable value below the equilibrium limit is established.

The samples required in 4.6.B.1.a.3, 4, and 5 shall be collected for 48 hours but may be discontinued if the reactor coolant concentration is shown to be less than 1% of the equilibrium value specified in 3.6.B.1 or when a stable iodine concentration below the limiting equilibrium value is established. Whereas a single measurement may be used to show an activity level below 1%, at least 3 consecutive samples with the last 2 yielding activities below the equilibrium value are required to establish a stable concentration below the equilibrium limit.

3.6.B (cont'd.)

4.6 (cont'd.)

2. The following limits shall be observed for reactor water quality prior to any startup and when operating at rated pressure:

a. Conductivity 1.0  $\mu\text{mho/cm}$   
at 25°C

b. Chloride concentration 0.2 ppm

3. Reactor water quality may exceed the limits of Specification 3.6.B.2 only for the time limits specified below. If these time limits or the maximum quality limits are exceeded the reactor coolant temperature shall be reduced to less than 212°F within 24 hours.

a. Conductivity at 25°C  
Time above  
1  $\mu\text{mho/cm}$  2 weeks/year

Maximum limit 10  $\mu\text{mhos/cm}$

b. Chloride concentration

Time above 2 weeks/year  
0.2 ppm

Maximum limit 1.0 ppm

c. pH

During operations, if the conductivity exceeds 1.0  $\mu\text{mho/cm}$ , pH shall be measured and brought within the 5.5 to 8.6 range within 24 hours. If the pH cannot be corrected, or if the pH is outside a range of 4 to 10, the

b. If the gross activity counts of a sample indicate an activity concentration above 3.1  $\mu\text{Ci/gm}$  of dose equivalent I-131, an isotopic analysis shall be performed and quantitative measurements made to determine the dose equivalent I-131 concentration.

c. An isotopic analysis of a reactor coolant sample shall be made at least once per month.

2. A sample of reactor coolant shall be analyzed:

a. At least every 4 days at steaming rates above 100,000 pounds per hour conductivity and chloride ion content.

b. At least every day during startups and at steaming rates below 100,000 pounds per hour for conductivity and chloride ion content.

c. At least every 4 hours during startups and steaming rates below 100,000 pounds per hour for chloride ion content if the conductivity increases above 0.5  $\mu\text{mho}$  or if it increases at a rate of 0.2  $\mu\text{mho/hr}$  or more.



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

SAFETY EVALUATION BY THE DIRECTORATE OF LICENSING

SUPPORTING AMENDMENT NO. 2 TO LICENSE NO. DPR-46

(CHANGE NO. 5 TO APPENDIX A OF TECHNICAL SPECIFICATIONS)

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

INTRODUCTION

By letter dated May 28, 1974, the Nebraska Public Power District (NPPD) submitted proposed changes to the Technical Specifications appended to Facility Operating License No. DPR-46 for the Cooper Nuclear Power Station. NPPD requested expeditious processing of several proposed changes which were included as Attachment 1.

We have completed our review of the proposed changes included in Attachment 1 and have designated our action as Amendment No. 2 to License No. DPR-46 which includes Change No. 5 to the Technical Specifications.

EVALUATION

The first two changes would permit changing the instrument set points on differential pressure ( $\Delta P$ ) switches in the HPCI and RCIC systems. These switches are used to automatically initiate an isolation of the HPCI and RCIC subsystems and maintain the integrity of the primary containment boundary in case of a break or leak in these subsystems. The design basis for the  $\Delta P$  set points is 300% of rated subsystem flow. The proposed new set points are based on recently completed system test data, more accurately indicate 300% of rated subsystem flow than did the preliminary predictions and therefore more accurately correspond to the design level of safety. Whereas the proposed change to the HPCI set points from 180"  $H_2O$  to 210"  $H_2O$  is a relatively minor change, within the uncertainties in the original estimate, the proposed change to the RCIC set points from 180"  $H_2O$  to 658"  $H_2O$  reflects in part, a reduction in pipe diameter from Schedule 40 in the original design to Schedule 160 in the "as built" condition. As a result of telephone conversations between NPPD and the staff, NPPD has agreed to a more conservative interpretation of the RCIC test data, and a modification of the proposed set point from 658"  $H_2O$  to 620"  $H_2O$ . In addition minimum

limits have been added to these set points to prevent a setting which could prematurely isolate the HPCI and RCIC systems. The incorporation of these lower limits increase plant safety. Based on our review, we have concluded that operation with the proposed  $\Delta P$  set points, as modified, will not endanger the health and safety of the public.

The third proposed change in Attachment 1 of the May 28, 1974 letter would require a coolant iodine concentration check prior to and during startup only if a previous check had yielded activity levels greater than 31 uCi/gm. We find this proposed change unacceptable because it is not within the intent of the original specifications. Iodine peaking has been observed during startups and following rapid power changes, including scrams. It is therefore important to check the coolant activity prior to and during all startups regardless of previous measurements made at equilibrium conditions, and not limit these checks to startups following indications of excessively high iodine concentrations. In order to clarify the original intent and remove possible ambiguities, we have reworded the Technical Specification surveillance requirements for coolant iodine concentration (Section 4.6.B). These revisions are included in Amendment No. 2.

CONCLUSION

The staff concludes that: (1) because the changes do 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; and (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner.

Joseph Sapir  
Operating Reactors Branch #2  
Directorate of Licensing

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

Date:

OFFICE ▶						
SURNAME ▶						
DATE ▶						

UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NO. 50-298

NEBRASKA PUBLIC POWER DISTRICT

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY LICENSE

Notice is hereby given that the U. S. Atomic Energy Commission (the Commission) has issued Amendment No. 2 to Facility Operating License No. DPR-46 issued to Nebraska Public Power District which revised Technical Specifications for operation of the Cooper Nuclear Station, located in Nemaha County, Nebraska. The amendment is effective as of its date of issuance.

This amendment permits the changing of instrument set points to conform with results of recent test data and clarifies the intent of existing surveillance requirements on coolant radioactivity.

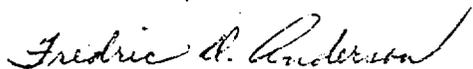
The application for the amendment complies with the standards and requirements of the Act and the Commission's rules and regulations and the Commission has made appropriate findings as required by the Atomic Energy Act of 1954, as amended, and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

For further details with respect to this action, see (1) the application for amendment dated May 28, 1974, (2) Amendment No. 2 to License No. DPR-46, with Change No. 5, and (3) the Commission's concurrently issued 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 Auburn Public Library, 1118 - 15th Street, Auburn, Nebraska 68305.

A copy of items (2) and (3) may be obtained upon request addressed to the United States Atomic Energy Commission, Washington, D. C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing - Regulation.

Dated at Bethesda, Maryland, this 15th day of August, 1974.

FOR THE ATOMIC ENERGY COMMISSION



Fredric D. Anderson, Acting Chief  
Operating Reactors Branch #2  
Directorate of Licensing