

November 6, 1991

Docket No. 50-298

Mr. Guy R. Horn
Nuclear Power Group Manager
Nebraska Public Power District
Post Office Box 499
Columbus, Nebraska 68602-0499

Dear Mr. Horn:

SUBJECT: COOPER NUCLEAR STATION - AMENDMENT NO. 149 TO FACILITY
OPERATING LICENSE NO. DPR-46 (TAC NO. 80271)

m

The Commission has issued the enclosed Amendment No. 149 to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The amendment consists of changes to the Technical Specifications in response to your application dated April 23, 1991, as supplemented November 4, 1991.

The amendment changes the Technical Specifications to: 1) permit the use of certain NRC-approved neutron absorber materials in control rods, 2) require that the Monthly Operating Reports be submitted in the manner specified by 10 CFR 50.4 and no later than the 15th day of the following month, and 3) make editorial changes that reflect the change of the title of the Safety Analysis Report to the Updated Safety Analysis Report.

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

Original signed by:

Roby B. Bevan, Project Manager
Project Directorate IV-1
Division of Reactor Projects III, IV, and V
Office of Nuclear Reactor Regulation

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Enclosures:

- Amendment No. 149 to License No. DPR-46
- Safety Evaluation

cc w/enclosures:
See next page

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OGC(MS15B18)	D. Hagan(MS3206)	G. Hill(4)	
Wanda Jones(MS7103)	C. Grimes(MS11E22)	PD4-1 Plant File	
GPA/PA(MS2G5)	ARM/LFMB(MS4503)	P. Harrell, RIV	

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R. Bevan
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OFC	: PD4-1/LA	: PD4-1/PM	: OGC	: PD4-1/D	:	:
NAME	: PNoonan	: RBevan	: M. Virgilio	: J. Larkins	:	:
DATE	: 11/4/91	: 11/4/91	: 11/5/91	: 11/6/91	:	:



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

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Sincerely,

A handwritten signature in cursive script, reading "Roby B. Bevan".

Roby B. Bevan, Project Manager
Project Directorate IV-1
Division of Reactor Projects III, IV, and V
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 149 to
License No. DPR-46
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. Guy R. Horn
Nuclear Power Group Manager

Cooper Nuclear Station

cc:

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Cooper Nuclear Station
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Nebraska Department of Environmental
Control
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Lincoln, Nebraska 68509-8922

Mr. Larry Bohlken, Chairman
Nemaha County Board of Commissioners
Nemaha County Courthouse
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Auburn, Nebraska 68305

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
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Brownville, Nebraska 68321

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
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Nebraska Department of Health
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Lincoln, Nebraska 68509-5007



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

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 149
License No. DPR-46

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nebraska Public Power District (the licensee) dated April 23, 1991, as supplemented November 4, 1991, 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;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. DPR-46 is hereby amended to read as follows:

2. Technical Specifications

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 149, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



John T. Larkins, Director
Project Directorate IV-1
Division of Reactor Projects III, IV, and V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 6, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 149

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

REMOVE PAGES

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INSERT PAGES

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5.0 MAJOR DESIGN FEATURES

5.1 Site Features

The Cooper Nuclear Station site is located in Nemaha County, Nebraska, on the west bank of the Missouri River, at river mile 532.5. This part of the river is referred to by the Corps of Engineers as the Lower Brownville Bend. Site coordinates are approximately 40° 21' north latitude and 95° 38' west longitude. The site consists of 1351 acres of land owned by Nebraska Public Power District. About 205 acres of this property is located in Atchison County, Missouri, opposite the Nebraska portion of the station site. The land area upon which the station is constructed is crossed by the Missouri River on the east and is bounded by privately owned property on the north, south, and west. At the west site boundary, a county road and Burlington Northern Railroad spur pass the site.

The reactor (center line) is located approximately 3600 feet from the nearest property boundary. No part of the present property shall be sold or leased by the applicant which would reduce the minimum distance from the reactor to the nearest site boundary to less than 3600 feet without prior NRC approval.

The protected area is formed by a seven foot chain link fence which surrounds the site buildings.

5.2 Reactor

- A. The reactor shall contain 548 fuel assemblies. Each assembly shall consist of a matrix of Zircalloy clad fuel rods with an initial composition of slightly enriched uranium dioxide (UO₂) as fuel material. Fuel assemblies shall be limited to those fuel designs approved by the NRC for use in BWRs.
- B. The core shall contain 137 cruciform-shaped control rods. The control material shall be boron carbide powder (B₄C) compacted to approximately 70% theoretical density or hafnium in control rod designs specifically approved by the NRC for use in BWRs.
- C. Lead Test Assembly (LTA) control blades and fuel assemblies of different design than described above may be installed under the provisions of 10CFR50.59 in conjunction with vendor test programs. The LTAs shall have been analyzed using methods previously approved by the NRC. The licensee will provide the NRC with a report describing the LTAs and analyses not less than 30 days prior to startup.

5.3 Reactor Vessel

The reactor vessel shall be as described in Section IV-20 of the USAR. The applicable design shall be as described in this section of the USAR.

5.4 Containment

- A. The principal design parameters for the primary containment shall be as given in Table V-2-1 of the USAR. The applicable design shall be as described in Section XII-2.3 of the USAR.
- B. The secondary containment shall be as described in Section V-3.0 of the USAR.
- C. Penetrations to the primary containment and piping passing through such

6.5.1.C (Cont'd)

1. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions, 1/ e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
2. A summary description of facility changes, tests or experiments in accordance with the requirements of 10CFR50.59(b).
3. Pursuant to 3.8.A, a report of radioactive source leak testing. This report is required only if the tests reveal the presence of 0.005 microcuries or more of removable contamination.
4. Documentation of all challenges to relief valves or safety valves.

D. Monthly Operating Report

Routine reports of operating statistics, shutdown experience, and a narrative summary of operating experience relating to safe operation of the facility, shall be submitted on a monthly basis in the manner specified by 10 CFR 50.4 no later than the 15th of each month following the calendar month covered by the report.

E. Annual Radiological Environmental Report

1. Routine radiological environmental reports covering the surveillance activities related to the Station operation during the previous calendar year shall be submitted to the NRC before May 1 of each year.
2. The Annual Radiological Environmental Report shall include the following:
 - a. A summary of doses to a Member of the Public Offsite due to Cooper Station aqueous and airborne radioactive effluents, calculated in accordance with methods compatible with the ODAM.
 - b. A summary of the results of the land use census required in Specification 4.21.F.2.

1/ This tabulation supplements the requirements of §20.407 of 10CFR Part 20.



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

ENCLOSURE

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATING TO TECHNICAL SPECIFICATION CHANGES OF NEUTRON ABSORBER MATERIAL
NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
DOCKET NO. 50-298

1.0 INTRODUCTION

By letter dated April 23, 1991, as amended by letter of November 4, 1991, the Nebraska Public Power District submitted a Technical Specification (TS) change request to allow changes in neutron absorber material in BWR control rods for Cooper. The current Cooper TS limits the control absorber material to boron carbide powder and some small amount of hafnium. The revised TS will allow the use of boron carbide or hafnium, provided that the neutron absorber material is approved by the NRC staff. In a letter dated November 4, 1991, the licensee amended the TS to specifically identify the boron carbide and hafnium as control absorber materials in control rod designs approved by the NRC. The November 4, 1991, letter provided clarifying information and did not change the proposed action or the initial proposed no significant hazards consideration determination.

2.0 EVALUATION

The licensee proposed the use of hafnium control material in BWR control rods as another alternative to boron carbide. Both boron carbide and hafnium are acceptable control materials. By letter dated July 1, 1991, the staff approved a GE new control rod design with hafnium control material. The analysis premising that approval is applicable here to the use of all hafnium control material in an approved control rod design is acceptable for Cooper.

3.0 TECHNICAL SPECIFICATION CHANGES

(a) Section 5.2.B Reactor

The control material is revised to cover different control materials such as boron carbide and hafnium which are approved by the NRC. As evaluated above, we conclude that this change is acceptable.

(b) Section 6.5.1.D Monthly Operating Report

The monthly operating report is revised to more closely follow the guidance of Standard Technical Specifications. We consider this change acceptable.

(c) Sections 5.3, 5.4.A, and 5.4.B

These sections are revised due to administrative changes. We consider these changes acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment. The State official had no comment.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding (56 FR 24212). In addition, the amendment changes reporting or recordkeeping requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR Section 51.22(c)(9) and (c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: S. L. Wu

Date: November 6, 1991