

Docket No. 50-298

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

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DEC 11 1975

The Commission has issued the enclosed Amendment No. 18 to Facility Operating License No. DPR-46 for Cooper Nuclear Station. This Amendment includes Change No. 21 to the Technical Specifications and is in response to your letter dated June 20, 1975 and supplement dated September 22, 1975.

The Amendment revises those portions of the license and Technical Specifications which relate to the receipt, possession and use of by-product, source, and special nuclear materials. Our current procedure for the licensing of byproduct, source, and special nuclear material is not to specify quantity limits. Your request was modified to be consistent with this procedure.

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

Your application dated June 20, 1975, as supplemented September 22, 1975, referenced the documents filed by you with the Commission in connection with Byproduct Material License No. 26-14003-01. For future reference and convenience, your April 8, 1971 byproduct material application and subsequent requests, and the above referenced byproduct material license, including Amendments 1 through 5 thereto, are being incorporated in the records of Docket 50-298 maintained by the Commission and at its Public Document Room and at the Auburn Public Library.

Sincerely,

Original signed by
Dennis L. Ziemann

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

Enclosures:
See next page

OFFICE →	RL:ORB #2 <i>RMD</i>	RL:ORB #2 <i>MF</i>	OELD <i>Y</i>	RL:ORB #2 DLZiemann		
SURNAME →	RMDiggs	MFletcher:ro				
DATE →	11/12/75	11/12/75	11/12/75	12/11/75		

DEC 11 1975

Enclosures:

- 1. Amendment No. 18 to License DPR-46 with Change No. 21
- 2. Safety Evaluation Report
- 3. Federal Register Notice

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
 Pheonix, Arizona 85004

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

cc w/enclosures and cy of NPPD's filings dtd 6/20/75 and 9/22/75:

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

cc w/enclosures and cy of NPPD's

Byproduct filings dtd 4/8/71,
 2/22/72, 3/23/73, 5/21/73, 11/18/73
 and 11/30/73 and License 26-14003-01:

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

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NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 18
License No. DPR-46

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Nebraska Public Power District (the licensee) dated June 20, 1975, as supplemented by letter dated September 22, 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;
 - 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. The receipt, possession and use of the byproduct, source and special nuclear material as authorized by this license, as amended, will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including Sections 30.33, 40.32, 70.23 and 70.31.
2. Accordingly, Facility Operating License No. DPR-46, as amended, is hereby further amended by replacing in their entirety paragraphs 2.B(2), 2.B(3), 2.B(4), 2.B(5) and 2.C(2) thereof with the following:

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- "2.B(2) 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, and the licensee's filings dated June 20, 1975 and September 22, 1975;
- 2.B(3) 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 materials 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;
- 2.B(4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear materials without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- 2.B(5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by operation of the facility."

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"(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. 21."

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

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment:
Change No. 21 to the
Technical Specifications

Date of Issuance: DEC 11 1975

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ATTACHMENT TO LICENSE AMENDMENT NO. 18

CHANGE NO. 21 TO THE TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace existing pages ii, iii, 185, 186, 235a and 241a with the attached revised pages bearing the same numbers. Changed areas on the revised pages are reflected by marginal lines.

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3.8 Miscellaneous Radioactive Materials SourcesApplicability:

Applies to the handling of radioactive sources within the facility.

Objective:

To ensure compliance with applicable regulations regarding radioactive sources.

Specification:A. Source Leakage Test

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 microcuries are also to be leak tested in accordance with the Surveillance Requirements.

4.8 Miscellaneous Radioactive Materials SourcesApplicability:

Applies to the periodic testing of radioactive sources for contamination.

Objective:

To verify that radioactive sources are within applicable contamination limits.

Specification:A. Source Leakage Test

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.
3. Startup sources shall be leak tested prior to and following any repair or maintenance and before being subjected to core flux.

Source Leakage Test

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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.

6.6 (cont'd.)

usage evaluation per the ASME Boiler and Pressure Vessel Code Section III was performed¹ for the conditions defined in the design specification. The locations to be monitored shall be:

- a. The feedwater nozzles
- b. The shell at or near the waterline
- c. The flange studs

2. Monitoring, Recording, Evaluating, and Reporting

- a. Operational transients that occur during plant operations will, at least semi-annually, be reviewed and compared to the transient conditions defined in the component stress report for the locations listed in 1 above, and used as a basis for the existing fatigue analysis.
- b. The number of transients which are comparable to or more severe than the transients evaluated in the stress report Code fatigue usage calculations will be recorded in an operating log book. For those transients which are more severe, available data, such as the metal and fluid temperatures, pressures, flow rates, and other conditions will be recorded in the log book.
- c. The number of transient events that exceed the design specification quantity and the number of transient events with a severity greater than that included in the existing Code fatigue usage calculations shall be added. When this sum exceeds the predicted number of design condition events by twenty-five², a fatigue usage evaluation of such events will be performed for the affected portion of the RCPB.

- H. Records of individual plant staff members showing qualifications, training and retraining.

6.6.3 Records and logs relating to the following items shall be kept for two years.

- A. The test results, in units of microcuries, for leak tests of sources performed pursuant to Specification 3.8.A.
- B. Records of annual physical inventories verifying accountability of the sources on record.

1. See paragraph N-415.2, ASME Section III, 1965 Edition.

2. The Code rules permit exclusion of twenty-five (25) stress cycles from secondary stress and fatigue usage evaluation. (See paragraphs N-412(t)(3) and N-417.10(f) of the Summer 1968 Addenda to ASME Section III, 1968 Edition.)

6.7.3. Unique Reporting Requirements

Reports shall be submitted to the Director, Division of Reactor Licensing, USNRC, Washington, D. C. 20555, as follow:

A. Reports on the following areas shall be submitted as noted:

<u>Area</u>	<u>Reference</u>	<u>Submittal Date</u>	
1. Secondary Containment Leak Rate Testing(1)	4.7.C.1	90 days after completion of each test.	
2. Design Fatigue Usage(2)	6.6.2.I	With Annual Operating Report.	
3. Radioactive Source Leak Testing (3)	3.8.A	With Annual Operating Report.	21

NOTES: (1) Each integrated leak rate test of the secondary containment shall be the subject of a summary technical report. This report should include data on the wind speed, wind direction, outside and inside temperatures during the test, concurrent reactor building pressure, and emergency ventilation flow rate. The report shall also include analyses and interpretations of those data which demonstrate compliance with the specified leak rate limits.

(2) In the Annual Operating Report, a listing of the number of events identified in 6.6.2.I.2.b will be tabulated and compared to the design or allowed quantity of comparable or more severe events. In those cases where recalculation of fatigue usage is required per 6.6.2.I.2.c and the calculated usage exceeds two times the design usage limit of the Code, the report will define the inservice inspections that will be performed on that portion of the RCPB to monitor for crack initiation.

(3) This report is required only if the tests reveal the presence of 0.005 microcuries or more of removable contamination.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 18 TO LICENSE NO. DPR-46

(CHANGE NO. 21)

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

INTRODUCTION

By letter dated June 20, 1975, and supplement dated September 22, 1975, Nebraska Public Power District (NPPD) requested an amendment to Facility Operating License DPR-46 for the Cooper Nuclear Station. The request involves revision 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, NPPD 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, and b. updated the Radioactive Materials Safety information in Docket No. 50-298 by incorporating, in their letter of September 22, 1975, reference to information submitted in support of the Cooper Nuclear Station Byproduct Materials License No. 26-14003-01.

DISCUSSION

By letter dated January 28, 1975, 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.

The objective of the request made in our letter of January 28, 1975 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.

NPPD's letter of June 20, 1975, was submitted in response to our January 28, 1975 letter.

EVALUATION

The proposed Technical Specification changes, the FSAR and the submittals dated June 20 and September 22, 1975, 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 materials, as described in the FSAR and the submittals dated June 20 and September 22, 1975, 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 conclude that the proposed license amendment, as supported by the proposed Technical Specification changes and the FSAR, is acceptable in that they:

- a. Comply with the guidance and intent of our letter of January 28, 1975.
- 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.

- 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 and the proposed Technical Specifications additions have 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 materials into the facility operating license for the Cooper Nuclear Station 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 regulations 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: DEC 11 1975

UNITED STATES NUCLEAR REGULATORY 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. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 18 to Facility Operating License No. DPR-46, issued to the Nebraska Public Power District (the licensee), which revised the license and Technical Specifications for operation of the Cooper Nuclear Station (the facility) located in Nemaha County, Nebraska. The amendment is effective as of its date of issuance.

This amendment revises those portions of the license and the appended Technical Specifications for the facility relating to the receipt, possession and use of byproduct, source and special nuclear materials to delete reference to these materials by quantitative limits to reduce the number of licensing actions required as a result of changes in possession limits of these materials.

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 amendment. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.

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For further details with respect to this action, see (1) the application for amendment dated June 20, 1975, and supplement thereto dated September 22, 1975, (2) the applications filed beginning April 8, 1971, for a Byproduct Material License and amendments thereto (which are concurrently being placed in the 50-298 docket records maintained at the locations indicated below, (3) Amendment No. 18 to License No. DPR-46, with Change No. 21, (4) 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 (3) and (4) may be obtained upon request addressed to the United States Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this *11th day of December, 1975.*

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by
Dennis L. Ziemann

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

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SURNAME >	RMDiggs	MPletcher:rc <i>MPletcher:rc</i>	<i>Wallo</i>	DLZiemann		
DATE >	11/2/75	11/2/75	11/2/75	12/11/75		