

September 9, 1987

Docket No. 50-298

Mr. George A. Trevors, Division
Manager - Nuclear Support
Nuclear Power Group
Nebraska Public Power District
Post Office Box 499
Columbus, Nebraska 68601

Dear Mr. Trevors:

SUBJECT: COOPER NUCLEAR STATION, AMENDMENT NO. 110 , TO FACILITY OPERATING
LICENSE NO. DPR-46 (TAC NO. 65813)

The Commission has issued the enclosed Amendment No. 110 to Facility Operating
License No. DPR-46 for the Cooper Nuclear Station. This amendment is in re-
sponse to your application dated July 9, 1987 as corrected by your letter
dated August 28, 1987. (Change #42).

The amendment changes the Technical Specifications to include local leak
rate test acceptance criteria for primary containment airlock doors.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will
be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

151

William O. Long, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects

Enclosures:

1. Amendment No. 110 to License No. DPR-46
2. Safety Evaluation

cc w/enclosures:
See next page

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PD4/LA <i>pk</i>	PD4/PM*	OGC*	PD4/D	PSB/DEST*
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Docket No. 50-298

Mr. George A. Trevors, Division
Manager - Nuclear Support
Nuclear Power Group
Nebraska Public Power District
Post Office Box 499
Columbus, Nebraska 68601

Dear Mr. Trevors:

The Commission has issued the enclosed Amendment No. [redacted] to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. This amendment is in response to your application dated July 9, 1987 (Change #42).

The amendment changes the Technical Specifications to include local leak rate test acceptance criteria for primary containment airlock doors.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

William O. Long, Project Manager
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects

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*Interim
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fn
PD4/LA *W*
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7/19/87

PD4/PM *W*
WLong: sr
7/27/87

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7/30/87
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PD4/D
JCalvo
7/ / 87

[Signature]
PSB/DEST
JWCraig
7/27/87

Mr. George A. Trevors
Nebraska Public Power District

Cooper Nuclear Station

cc:
Mr. G. D. Watson, General Counsel
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Columbus, Nebraska 68601

Cooper Nuclear Station
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Director
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Control
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State House Station
Lincoln, Nebraska 68509

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

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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Arlington, Texas 76011

Mr. Harold Borchart, Director
Division of Radiological Health
Department of Health
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P. O. Box 95007
Lincoln, Nebraska 68509



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. 110
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 July 9, 1987, and revised August 28, 1987, 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 issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
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:

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(2) Technical Specifications

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

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

FOR THE NUCLEAR REGULATORY COMMISSION

Jose A. Calvo

Jose A. Calvo, Director
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 9, 1987

ATTACHMENT TO LICENSE AMENDMENT NO.110

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 areas are indicated by marginal lines.

Pages
162a
178

LIMITING CONDITIONS FOR OPERATION

3.7.A (Cont'd)

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3.7.A & 4.7.A BASES (cont'd.)

trends. Whenever a bolted double-gasketed penetration is broken and remade, the space between the gaskets is pressurized to determine that the seals are performing properly. It is expected that the majority of the leakage from valves, penetrations and seals would be into the reactor building. However, it is possible that leakage into other parts of the facility could occur. Such leakage paths that may affect significantly the consequences of accidents are to be minimized.

Table 3.7.4 identifies certain isolation valves that are tested by pressurizing the volume between the inboard and outboard isolation valves. This results in conservative test results since the inboard valve, if a globe valve, will be tested such that the test pressure is tending to lift the globe off its seat. Additionally, the measured leak rate for such a test is conservatively assigned to both of the valves equally and not divided between the two.

The main steam and feedwater testable penetrations consist of a double layered metal bellows. The inboard high pressure side of the bellows is subjected to drywell pressure. Therefore, the bellows is tested in its entirety when the drywell is tested. The bellows layers are tested for the integrity of both layers by pressurizing the void between the layers to 5 psig. Any higher pressure could cause permanent deformation, damage and possible ruptures of the bellows.

Surveillance requirements for integrity of the personnel air lock are specified in Enclosure 1 (Exemption) to the letter, D. G. Eisenhut to J. M. Pilant, September 3, 1982. When the Personnel Air Lock Leakage Test is performed at a test pressure less than 58 psig, the measured leakage must be adjusted to reflect the expected leakage at 58 psig. Equation A-3 of Enclosure 3 (Franklin Research Center Technical Evaluation Report) to the letter, D. G. Eisenhut to J. M. Pilant, September 3, 1982, defines the method of adjustment.

The primary containment pre-operational test pressures are based upon the calculated primary containment pressure response in the event of a loss-of-coolant accident. The peak drywell pressure would be about 58 psig which would rapidly reduce to 29 psig following the pipe break. Following the pipe break, the suppression chamber pressure rises to 27 psig, equalizes with drywell pressure and therefore rapidly decays with the drywell pressure decay. The design pressure of the drywell and suppression chamber is 56 psig. Based on the calculated containment pressure response discussed above, the primary containment preoperational test pressure was chosen. Also, based on the primary containment pressure response and the fact that the drywell and suppression chamber function as a unit, the primary containment will be tested as a unit rather than the individual components separately.

The design basis loss-of-coolant accident was evaluated at the primary containment maximum allowable accident leak rate of 0.635%/day at 58 psig. Calculations made by the NRC staff with leak rate and a standby gas treatment system filter efficiency of 90% for halogens and assuming the fission product release fractions stated in NRC Regulatory Guide 1.3, show that the maximum total whole body passing cloud dose is about 1.0 REM and the maximum total thyroid dose is about 12 REM at 1100 meters from the stack over an exposure duration of two hours. The resultant doses reported are the maximum that would be expected in the unlikely event of a design basis loss-of-coolant accident. These doses are also based on the assumption of no holdup in the secondary containment resulting in a direct release of fission products from the primary containment through the filters and stack to the environs. Therefore, the specified primary containment leak rate and filter efficiency are conservative and provide margin between expected off-site doses and 10 CFR 100 guidelines.

The water in the suppression chamber is used for cooling in the event of an accident; i.e., it is not used for normal operation; therefore, a daily



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 110 TO FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

By letters dated July 9, 1987 and August 28, 1987 (Change No. 42) the Nebraska Public Power District (the licensee) requested an amendment to Facility Operating License No. DPR-46 for the Cooper Nuclear Station (CNS). The proposed amendment would change the Appendix A Technical Specifications to include local leak rate test acceptance criteria for airlock doors.

2.0 DISCUSSION AND EVALUATION

The 10 CFR 50 Appendix J Section III.D.2.b(iv) requires that "the acceptance criteria for air lock testing shall be stated in the Technical Specifications." The CNS Technical Specifications presently lack such a statement of the test acceptance criteria. The licensee has requested that Section 4.7.A.2.F of the Technical Specifications be revised to include the following words:

"The maximum allowable leakage at a test pressure of 58 psig is 12.0 scfh. Leakage measured at test pressure less than 58 psig is adjusted to the equivalent value at 58 psig."

The allowable leakage rate is based on the staff's position that airlock door leakage not exceed 0.05 La at Pa. Measurement of leakage at less than Pa with adjustment of results to Pa, is consistent with a staff recommendation contained in a Safety Evaluation issued with a test interval Exemption on September 3, 1982 and is conservative. The proposed amendment is therefore acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

This 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. The 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding.

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Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and pursuant to 10 CFR 51.22(b) no environmental impact statement or assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

We have 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, and
(2) such activities will be conducted in compliance with the Commission's regulations and 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: W. Long

Dated: September 9, 1987