

October 30, 2006

Mr. Randall K. Edington
Vice President-Nuclear and CNO
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - EXEMPTION FROM THE REQUIRMENTS OF
TITLE 10 OF THE *CODE OF FEDERAL REGULATIONS*, PART 50,
APPENDIX J (TAC NO. MD0568)

Dear Mr. Edington:

The Commission has approved the enclosed exemption from specific requirements of Title 10 of the *Code of Federal Regulations*, Part 50, Appendix J, for Cooper Nuclear Station. This action is in response to your application dated March 15, 2006.

A copy of the exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Brian Benney, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure: Exemption

cc w/encl: See next page

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
NEBRASKA PUBLIC POWER DISTRICT
COOPER NUCLEAR STATION
DOCKET NO. 50-298
EXEMPTION

1.0 BACKGROUND

Nebraska Public Power District (NPPD or the licensee) are the holders of Facility Operating License No. DPR-46 which authorizes operation of the Cooper Nuclear Station (CNS). The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (NRC, the Commission) now or hereafter in effect.

The facility consists of a boiling-water reactor located in Nemaha County, Nebraska.

2.0 REQUEST/ACTION

Title 10 of the *Code of Federal Regulations* (10 CFR), section 50.54(o), requires primary reactor containments for water-cooled power reactors to be subject to the requirements of Appendix J to 10 CFR Part 50. Appendix J specifies the leakage test requirements, schedules, and acceptance criteria for tests of the leak-tight integrity of the primary reactor containment, and systems and components that penetrate the containment. Option B of Appendix J is titled, "Performance-Based Requirements." Option B, Section III.A., "Type A Test," requires, among other things, that the overall integrated leakage rate must not exceed the allowable leakage rate (La) with margin, as specified in the Technical Specifications (TSs). The overall integrated leak rate, is defined in 10 CFR Part 50, Appendix J as "the total leakage rate through all tested

leakage paths, including containment welds, valves, fittings, and components that penetrate the containment system." This includes the contribution from MSIV leakage. The licensee has requested exemption from Option B, Section III.A requirements to permit exclusion of MSIV leakage from the overall integrated leak rate test measurement. Main steam leakage includes leakage through all four main steam lines and the main steam drain line.

Option B, Section III.B of 10 CFR Part 50, Appendix J, "Type B and C Tests," requires, among other things, that the sum of the leakage rates at accident pressure of Type B tests and pathway leakage rates from Type C tests be less than the performance criterion (L_a) with margin, as specified in the TSs. The licensee also requests exemption from this requirement, to permit exclusion of the main steam pathway leakage contributions from the sum of the leakage rates from Type B and Type C tests.

The main steam leakage effluent has a different pathway to the environment, when compared to a typical containment penetration. It is not directed into the secondary containment and filtered through the standby gas treatment system as is other containment leakage. Instead, the main steam isolation valve (MSIV) leakage is directed through the main steam drain piping into the condenser and is released into the environment as an unfiltered ground level effluent.

In summary, the licensee analyzed the MSIV leakage pathway and the containment leakage pathways separately in a dose consequences analysis. The calculated radiological consequences of the combined leakage were found to be within the criteria of 10 CFR Part 100 and General Design Criterion (GDC) 19. The NRC staff reviewed the licensee's analyses and found them acceptable as described in a safety evaluation dated September 1, 2004. By separating the MSIV leakage acceptance criteria from the overall integrated leak rate test criterion, and from the Type B and C leakage sum limitation, the CNS containment leakage

testing will be made more consistent with the limiting assumptions used in the associated accident consequences analyses.

3.0 DISCUSSION

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when (1) the exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security, and (2) when special circumstances are present. Special circumstances are present whenever, according to 10 CFR 50.12(a)(2):

(i) Application of the regulation in the particular circumstances conflicts with other rules or requirements of the Commission; or

(ii) Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule; or

(iii) Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated; or

(iv) The exemption would result in benefit to the public health and safety that compensates for any decrease in safety that may result from the grant of the exemption; or

(v) The exemption would provide only temporary relief from the applicable regulation and the licensee or applicant has made good faith efforts to comply with the regulation; or

(vi) There is present any other material circumstance not considered when the regulation was adopted for which it would be in the public interest to grant an exemption. If such condition is relied on exclusively for satisfying paragraph (a)(2) of this section, the exemption may not be granted until the Executive Director for Operations has consulted with the Commission.

The licensee's exemption request was submitted in conjunction with a TS amendment application to increase the allowable leak rate for the MSIVs. The proposed amendment will be issued concurrently with this exemption. The exemption and amendment together would implement the recommendations of Topical Report NEDC-31858, "BWR Report for Increasing MSIV Leakage Rate Limits and Elimination of Leakage Control Systems." The topical report was evaluated by the NRC staff and accepted in a safety evaluation dated March 3, 1999. The special circumstances associated with MSIV leakage testing are fully described in the topical report. These circumstances relate to the monetary costs and personnel radiation exposure involved with maintaining MSIV leakage limits more restrictive than necessary to meet offsite dose criteria and control room habitability criteria.

The underlying purpose of the rule which implements Appendix J (i.e., 10 CFR 50.54(o)) is to assure that containment leak tight integrity is maintained (a) as tight as reasonably achievable and (b) sufficiently tight so as to limit effluent release to values bounded by the analyses of radiological consequences of design-basis accidents. Based on the above, no new

accident precursors are created by the exemption, thus, the probability of postulated accidents is not increased. Also, based on the above, the consequences of postulated accidents are not increased. As such, the NRC staff has determined that the intent of the rule is not compromised by the proposed exemption.

The proposed exemption would permit exclusion of the main steam pathway leakage contributions from the overall integrated leakage rate Type A test measurement. This change has no relation to security issues. Therefore, the common defense and security is not impacted by this exemption.

Based on the foregoing, the separation of the main steam pathways from the other containment leakage pathways is warranted because a separate radiological consequence term has been provided for these pathways. The revised design-basis radiological consequences analyses address these pathways as individual factors, exclusive of the primary containment leakage. Therefore, the NRC staff finds the proposed exemption from Appendix J to be acceptable.

4.0 CONCLUSION

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants NPPD an exemption from the requirements of Sections III.A and III.B of Option B of Appendix J to 10 CFR Part 50 for CNS.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the quality of the human environment (71 FR 61074).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 30th day of October 2006.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Catherine Haney, Director
Division of Operating Reactor Licensing
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Cooper Nuclear Station

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February 2006