July 17, 1995

Mr. Guy R. Horn
Vice-President, Nuclear
Nebraska Public Power District
P. O. Box 499
Columbus, NE 68602-0499

SUBJECT: EXEMPTION FROM 10 CFR PART 50, APPENDIX J - DRYWELL HEAD AND MANPORT COOPER NUCLEAR STATION (TAC NO. M91396)

Dear Mr. Horn:

The Commission has issued the enclosed Exemption from certain requirements of Appendix J to 10 CFR Part 50 for the Cooper Nuclear Station (CNS), in response to your letter dated December 27, 1994. The Exemption permits a one-time extension for the performance of Type B local leak rate testing of the drywell head and manport from July 17, 1995, until startup from Refueling Outage 16, scheduled to commence on October 13, 1995. The bases for our findings are contained in the enclosed safety evaluation. A license amendment to reflect the associated change in the CNS Technical Specifications will be issued under separate cover.

A copy of the Exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,
Orginial Signed By:
James R. Hall, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures: 1. Exemption
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Project Directorate IV-1
Division of Reactor Projects III/IV
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Docket No. 50-298

Enclosures: 1. Exemption
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
NEBRASKA PUBLIC POWER DISTRICT	)	
	)	Docket No. 50-298
(Cooper Nuclear Station)	)	

EXEMPTION

I.

Nebraska Public Power District (the licensee) is the holder of Facility Operating License No. DPR-46, which authorizes operation of the Cooper Nuclear Station (CNS) at power levels not in excess of 2381 megawatts thermal. The facility consists of a boiling water reactor at the licensee's site in Nemaha County, Nebraska. The operating license provides, among other things, that CNS is subject to all rules, regulations, and orders of the Commission now or hereafter in effect.

II.

Section 50.54(o) of 10 CFR Part 50 requires that primary reactor containments for water-cooled power reactors be subject to the requirements of Appendix J to 10 CFR Part 50. Appendix J contains the leakage test requirements, schedules and acceptance criteria for tests of the leak tight integrity of the primary reactor containment and systems and components which penetrate the containment.

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Section III.D.2(a) of Appendix J to 10 CFR Part 50 requires that Type B leak rate tests, except for airlocks, be performed during reactor shutdown for refueling, or at other convenient intervals, but in no case at intervals greater than two years. Type B tests are intended to detect local leaks and to measure leakage across each pressure-containing or leakage-limiting boundary for certain reactor containment penetrations.

NRC regulations in 10 CFR 50.12(a) provide for specific exemptions from the requirements of the regulations in Part 50 if: (1) 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; and, (2) special circumstances are present. The regulations in 10 CFR 50.12(a)(2)(ii) provide that special circumstances are present where 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.

III.

By letter dated December 27, 1994, the licensee requested a one-time exemption from the requirements of Appendix J, Section III.D.2(a) for the drywell head and manport penetrations. The requested exemption for an extension of the 2-year surveillance interval would allow these penetrations to be tested at the next refueling outage, scheduled to commence on October 13, 1995. The current 2-year interval ends on July 17, 1995, when the plant is expected to be at power. The current operating cycle for the CNS commenced on August 1, 1993, and has included an extended, unplanned outage of nearly nine months (May 25, 1994, through February 21, 1995). This factor,

along with the anticipated load demand and fuel capacity, have resulted in the rescheduling of the next refueling outage to October 1995.

During the unplanned outage, the licensee evaluated the schedule for performing the required Type B and C local leak rate tests (LLRTs) to ensure that all of these tests would be performed within the Technical Specification and 10 CFR Part 50, Appendix J 2-year maximum surveillance interval. As a result of this evaluation, the licensee determined that only two LLRTs would come due when anticipated plant conditions could prohibit performance of the test. These are the Type B LLRTs required for both the drywell head and manport (penetrations DWH and X-4 respectively), which are currently due July 17, 1995. During reactor power operation, the extreme radiation environment prohibits personnel from performing the subject LLRTs or any of the activities (removal and replacement of the shield blocks on the refueling floor) associated with these tests. The subject LLRTs are normally performed during refueling outages. Therefore, the licensee would have to initiate a reactor shutdown solely for the purpose of conducting the subject Type B tests in order to comply with the current schedular requirement.

The licensee provided additional information to support the requested exemption and to address the requirements of 10 CFR 50.12, "Specific Exemptions." With respect to the requirements of 10 CFR 50.12(a)(1), the licensee states that the exemption will not present an undue risk to the public health and safety based on the following reasons:

The drywell head and manport (X-4) have never failed an as found LLRT.

The drywell head seal is made from a 45 $\pm$ 5 durometer silicone rubber compound. Environmental conditions such as heat and radiation cause degradation in silicone compounds. It is reasonable to conclude that less degradation can be expected due to the extended shutdown and

subsequent lower temperature and radiation levels experienced by the seals.

The drywell head and manport penetrations are not active components, and therefore, are not subject to active failure criteria.

With respect to the requirements of 10 CFR 50.12(a)(2)(ii), the licensee states that application of the regulation in this particular circumstance is not necessary to achieve the underlying purpose of the rule. The licensee indicates that the rule states that testing be conducted during reactor shutdown for refueling or other convenient intervals. The extended forced outage was not a convenient interval for performing the two Type B tests, as it was not a scheduled refueling outage and the significant effort in preparing for and performing the tests normally done in concert with other refueling activities was not planned for. The licensee also states that the intent of the regulation is to assure performance of LLRTs after every two years of full power operation, and that, due to the extended forced outage, CNS will not have operated at full power for two years between the performance of the LLRTs. Therefore, the licensee maintains that the time extension for performing the tests does not conflict with the intent of the regulation.

The NRC staff has evaluated the licensee's exemption request and has determined that the licensee has provided adequate technical justification for the requested exemption and has demonstrated that special circumstances exist, in accordance with 10 CFR 50.12(a)(2). Specifically, the two subject penetrations have never failed their Type B tests since CNS commenced commercial operation in 1974; therefore there is a high degree of confidence in the leak tight integrity of those penetrations. Based on the licensee's schedule, the requested exemption would allow continued power operation without leak testing the penetrations for less than three months until the

plant is shut down for refueling; in the cold shutdown condition, primary containment integrity is not required. The subject tests would then be performed prior to startup from the refueling outage. Based on the test history of these penetrations and the brief period of operation anticipated before shutdown, the staff concludes that the exemption request is justified.

In addition, the staff concludes that the licensee has demonstrated that special circumstances exist in accordance with 10 CFR 50.12(a)(2)(ii). Application of the regulation is not necessary to achieve the underlying purpose of the rule. The underlying purpose of conducting Type B tests is to detect local leaks and to measure leakage across each pressure-containing or leakage-limiting boundary for certain reactor containment penetrations. Type B tests on the subject penetrations will be performed in successive refueling outages not significantly beyond the 2-year interval and a convenient opportunity to conduct the testing was not otherwise available.

IV.

Accordingly, the Commission has determined that pursuant to 10 CFR 50.12(a), the exemption is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest and that the special circumstances required by 10 CFR 50.12(a)(2) are present. An exemption is hereby granted from the requirements of Section III.D.2(a) of Appendix J to 10 CFR Part 50, which requires that Type B tests be performed during each reactor shutdown for refueling but in no case at intervals greater than two years, for the drywell head and manport (penetrations DWH and X-4 respectively) at the CNS. The exemption allows a one-time extension for the Type B testing of these penetrations from July 17, 1995, until the next refueling outage, scheduled to commence on October 13, 1995.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant effect on the quality of the human environment (60 FR 36312). This exemption is effective upon issuance.

Dated at Rockville Maryland this 17th day of July 1995.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack W. Roe, Director
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant effect on the quality of the human environment (60 FR 36312). This exemption is effective upon issuance.

Dated at Rockville Maryland this 17th day of July 1995.

FOR THE NUCLEAR REGULATORY COMMISSION

Jack W. Roe, Director
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

DOCUMENT NAME: C0091396.EXM *See previous concurrence

OFC	LA/PD4-1	PM/PD4-1	BC/SCSB*	OGC	D/PD4-1	D/DRPW
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DATE	/ /95	/ /95	07/10/95	7/13/95	7/19/95	7/17/95
COPY	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO

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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

EXEMPTION FROM 10 CFR 50, APPENDIX J, SECTION III.D.2(a)

FOR DRYWELL HEAD AND MANPORT

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

By letter dated December 27, 1994, the Nebraska Public Power District (NPPD, the licensee) submitted a request for exemption from the requirements of 10 CFR Part 50, Appendix J, Section III.D.2(a) for the Cooper Nuclear Station (CNS). In that letter, the licensee specifically requested a one-time schedular extension to the two-year Type B leak testing interval, to allow deferral of the testing of two primary containment penetrations, the drywell head and manport, until the next refueling outage. The two penetrations are currently required to be leak tested by July 17, 1995, when the plant is expected to be operating at full power; the exemption would allow the testing to be performed during Refueling Outage 16, commencing on October 13, 1995.

2.0 EVALUATION

Section III.D.2(a) of Appendix J to 10 CFR Part 50 requires that Type B local leak rate tests (LLRTs), except for airlocks, be performed during reactor shutdown for refueling, or at other convenient intervals, but in no case at intervals greater than two years. Type B tests are intended to detect local leaks and to measure leakage across each pressure-containing or leakage-limiting boundary for certain reactor containment penetrations. The two-year interval for Type B tests was instituted to ensure that testing is performed on a sufficient frequency to detect degradation of containment integrity (and initiate corrective action) before such degradation becomes significant, but on a frequency long enough to permit the tests to be performed during regularly scheduled refueling outages.

The licensee indicated that the Type B leak tests of the subject penetrations can not be conducted with the plant at power. During reactor power operation, the extreme radiation environment prohibits personnel from performing the subject LLRTs or any of the activities associated with these tests (such as the removal and replacement of the shield blocks on the refueling floor). The subject LLRTs are normally performed during refueling outages. Therefore, the licensee would have to initiate a reactor shutdown solely for the purpose of conducting the subject Type B tests in order to comply with the current schedular requirement.

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The licensee cited a number of factors in support of the exemption request. First, the drywell head and manport penetrations have never failed a Type B test and CNS has been operating for over 20 years. Second, the current operating cycle for CNS commenced on August 1, 1993, and has included an extended, unplanned outage of nearly nine months (May 25, 1994, through February 21, 1995). Therefore, the plant will have operated at full power for a maximum of 18 months out of the 27 month period between refueling outages. The licensee maintains that degradation of the penetration seals would be less likely during periods of plant shutdown, due to the less severe radiation and temperature environment. The licensee also indicated that the subject penetrations are not active components, and therefore, are not subject to active failure criteria.

During the 1994-1995 forced outage, the licensee evaluated the schedular requirements for all Type B and C testing and performed any tests, as needed, with the exception of the subject penetrations. Because the duration of the forced outage was uncertain, and reactor disassembly was not conducted, the licensee did not attempt to perform the subject tests during that outage, electing to focus its resources on higher priority programmatic and regulatory issues. However, the staff concludes that the licensee did make a good faith effort to meet the overall requirements of Appendix J.

The requested exemption would allow continued power operation without leak testing the penetrations for less than three months until the plant is shut down for refueling; in the cold shutdown condition, primary containment integrity is not required. The subject tests would then be performed prior to startup from the refueling outage. Based on the test history of these penetrations and the brief period of operation anticipated before shutdown, there is a high degree of confidence that the penetrations will be capable of performing their intended function of assuring containment integrity following a postulated accident. The staff concludes that the exemption request is justified.

3.0 CONCLUSION

Based on the above evaluation, the staff finds the requested temporary exemption, to allow the deferral of the Type B testing of the drywell head and manport penetrations from July 17, 1995, until the next refueling outage commencing on October 13, 1995, to be acceptable.

Principal Contributor: J. R. Hall

Date: July 17, 1995