



Nebraska Public Power District

COOPER NUCLEAR STATION
P.O. BOX 98, BROWNVILLE, NEBRASKA 68321
TELEPHONE (402)825-3811
FAX (402)825-5211

NSD940479
May 13, 1994

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Exemption Request - 10 CFR 50 Appendix J, Paragraph III.D.2(b)(ii)
Cooper Nuclear Station
NRC Docket No. 50-298, License No. DPR-46

10 CFR 50, Appendix J, Section III.D.2(b)(ii) requires that airlocks opened during periods when containment integrity is not required by the plant's Technical Specifications shall be tested at the end of such periods at not less than P_a (calculated peak containment internal pressure due to the design basis accident). Recently, the Nebraska Public Power District (District) evaluated its procedures and Technical Specification requirements, including supporting correspondence, for conducting primary containment airlock testing at Cooper Nuclear Station (CNS). This review confirmed that when a reactor coolant leak test is required, two such airlock tests are necessary; one before criticality and one after the last leak inspection entry. The District has determined that an exemption from the specific requirements of Appendix J, Section III.D.2(b)(ii) would be desirable to reduce costs, and equipment wear-and-tear, while still adequately demonstrating primary containment integrity. The District hereby requests that such exemption be granted based on the attached information. As an alternate to the two tests at not less than P_a , the District proposes that a reduced pressure test be performed at the conclusion of the period when primary containment is no longer required, followed by a full pressure test (no less than P_a) subsequent to the last containment entry. The District requests that this exemption remain effective until the expiration of the CNS Operating License, or until otherwise requested and granted.

Background and Discussion

Recently, the District evaluated its procedures for the implementation of CNS Technical Specification No. 4.7.A.2.f.5 along with the associated Appendix J exemption granted September 3, 1982, and Section III.D.2(b)(ii) of 10 CFR 50, Appendix J. The District's current procedure for implementing this specific Appendix J requirement consists of pressurizing the airspace between the inner and outer containment airlock to at least P_a . This pressurization is performed twice at the conclusion of an outage where primary containment entry has been made. The first test (minimum of P_a) is performed at the conclusion of the period when primary containment integrity is no longer required. The second test at P_a takes place subsequent to the last containment entry by personnel during start-up (during plant conditions when primary containment is required). In both instances, a strongback must be installed on the inner airlock door. The strongback is necessary because the containment airlock design at CNS prohibits the airlock from being pressurized at design pressure opposite of the accident direction.

The District acknowledges the need to demonstrate containment airlock leaktightness at the conclusion of periods when containment integrity is not required, but requests relief from the

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May 13, 1994

Page 2 of 4

need to perform all tests at a pressure of at least P_a . The District proposes that the underlying intent of Section III.D.2(b)(ii) can be met by performing the first test at a reduced pressure of at least 3 psig and extrapolating the test result with what could be expected at P_a . The NRC has accepted reduced pressure testing as part of an exemption granted to the District on September 3, 1982, provided the formula used satisfactorily extrapolates the test results to P_a . This exemption specifically allows the District to utilize a reduced pressure test in lieu of P_a for the six-month test intervals required by Appendix J and CNS Technical Specifications. More recently, the NRC has granted exemptions to Section III.D.2(b)(ii) to several other utilities which allow for reduced pressure testing to meet the underlying intent of the subject regulation.

Additionally, by performing the first containment airlock test at a reduced pressure (which does not require the installation of a strongback), labor costs, start-up time, and equipment wear-and-tear are significantly reduced. The underlying intent of Appendix J continues to be met, and protection of the health and safety of the public is maintained.

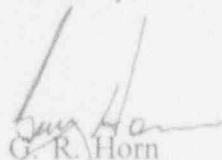
For the above reasons, the District respectfully requests an exemption from the requirements of 10 CFR 50, Appendix J, Section III.D.2(b)(ii). As an alternate to two tests at not less than P_a , the District proposes that a reduced pressure test be performed at the conclusion of the period when primary containment is no longer required, followed by a full pressure test (no less than P_a) subsequent to the last containment entry. The District requests that this exemption remains effective until the expiration of the CNS Operating License, or until otherwise requested and granted.

10 CFR 50.12(a) provides the NRC a means of granting exemptions to the requirements of 10 CFR 50 if "special circumstances" are present and the exemptions, "authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security." On the basis of the information provided in the attachment, the District concludes that "special circumstances" exist which justify the requested exemption under the standards of 10 CFR 50.12(a). The attachment to this letter identifies those special circumstances that are present and that the requested exemption will not present an undue risk to public health and safety because the underlying intent of Appendix J will continue to be met.

With respect to the schedule for the review of this exemption request, the District respectfully requests approval of this request prior to October 15, 1994. This date reflects the District's next scheduled maintenance outage where primary containment access will be necessary.

If you have any questions, please call.

Sincerely,



G. R. Horn
Vice President - Nuclear

GRH/GRS/dnm
Attachment

U.S. Nuclear Regulatory Commission

May 13, 1994

Page 3 of 4

cc: H. R. Borchert
Department of Health
State of Nebraska

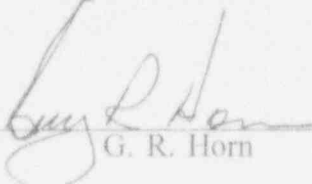
NRC Regional Office
Region IV
Arlington, TX

NRC Resident Inspector
Cooper Nuclear Station

U.S. Nuclear Regulatory Commission
May 13, 1994
Page 4 of 4

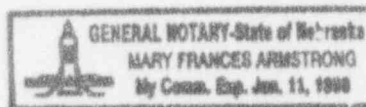
STATE OF NEBRASKA)
NEMAHA COUNTY)

G. R. Horn, being first duly sworn, deposes and says that he is an authorized representative of the Nebraska Public Power District, a public corporation and political subdivision of the State of Nebraska; that he is duly authorized to submit this request on behalf of Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.


G. R. Horn

Subscribed in my presence and sworn to before me this 13th day of May, 1994.


NOTARY PUBLIC



COOPER NUCLEAR STATION
NRC DOCKET NO. 50-298
OPERATING LICENSE DPR-46
APPENDIX J EXEMPTION REQUEST
PRIMARY CONTAINMENT AIRLOCK TESTING

Exemption Request

Appendix J, Section III.D.2(b)(ii) states:

Air locks opened during periods when containment integrity is not required by the plant's Technical Specifications shall be tested at the end of such periods at not less than P_a .

In accordance with the requirements of 10 CFR 50.12(a), the District requests a permanent exemption from the specific requirements of Section III.D.2(b)(ii). As an alternate to the two tests at not less than P_a , the District proposes that a reduced pressure test be performed on the airlock in lieu of P_a and that a full pressure test (at not less than P_a) be performed subsequent to the last containment entry. The last containment entry is necessary in order for operations personnel to perform final inspections of the primary coolant systems for leaks. The District requests that this exemption remains effective until the expiration of the CNS Operating License, or until otherwise requested and granted.

10 CFR 50.12 Analysis

10 CFR 50.12(a) provides the NRC a means of granting exemptions to the requirements of 10 CFR 50 if "special circumstances" are present and the exemptions, "authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security." On the basis of the information provided herein, the District concludes that the above identified exemption request is justified pursuant to 10 CFR 50.12(a)(1) and the "special circumstances" of 10 CFR 50.12(a)(2)(ii), and (a)(2)(iii) in that:

- * This exemption will not present an undue risk to the public health and safety.

The proposed exemption does not change, modify, or restrict existing plant safety limits, safety settings, or operations. The exemption does not impact the design basis of containment nor modify its response during a design basis accident. The District's proposal to test at a reduced pressure at the conclusion of the period where containment integrity is no longer required (and subsequently followed by a P_a test following the final entry) will provide assurance that the containment airlock will perform its containment integrity function. By testing at a reduced pressure and extrapolating those results to P_a , leaktightness of the airlock will be verified prior to when primary containment is required. This proposed test sequence will not result in degradation of the containment airlock sealing capability.

- * Application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule.

The alternative test methodology proposed in the exemption request will provide the equivalent test results as those that would be acquired through the implementation of the verbatim requirements of 10 CFR 50, Appendix J, III.D.2(b)(ii). The exemption granted to the District on September 3, 1982 currently allows the District to perform the six-month test interval on the containment airlock at a reduced pressure. The SER accompanying this exemption allows for reduced pressure testing in this application provided the measured results are extrapolated to P_a using the formula recommended in the Technical Evaluation Report^{1/} or some other acceptable means. Subsequent exemptions granted by the NRC to several other utilities for Section III.D.2(b)(ii) have concluded that literal compliance with this requirement is not necessary to assure containment airlock leaktightness and that reduced pressure testing is considered acceptable. By utilizing a reduced pressure test and then extrapolating the results to P_a prior to the time containment integrity is required, containment leaktightness is verified and the intent of Section of III.D.2(b)(ii) has been satisfied.

- * Compliance would result in costs that are significantly in excess of those contemplated when the regulation was adopted.

Literal compliance to 10 CFR 50, Appendix J, Section III.D.2(b)(ii) would result in increased costs. This is due, in part, to the current airlock design at CNS which prohibits the pressurization, at P_a , of the inner airlock door opposite of the accident pressure direction. To pressurize at P_a or above, a strongback must be installed on the inner airlock door. The strongback is not required for the reduced pressure test. Literal compliance to Section III.D.2(b)(ii) would require that the strongback be installed immediately after the period when containment integrity is no longer required. This effort does not eliminate the need to install the strongback one additional time, subsequent to the final entry by personnel to perform primary system leakage inspections, in order to satisfy the CNS Technical Specification requirements of SR 4.7.A.2.f.5. By having to perform this activity twice, as opposed to only once (subsequent to the final containment entry), additional costs are incurred through increased labor costs, start-up time, and equipment wear-and-tear. In several exemptions granted to other utilities regarding Section III.D.2(b)(ii), the NRC has concluded that literal compliance to this regulation would lead to increased costs and occupational exposure.

Environmental Consideration

The proposed exemption to 10 CFR 50, Appendix J, Section III.D.2(b)(ii) changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR 20. The alternative test methodology contained in the proposed exemption will assure airlock sealing capability and containment integrity. Therefore, the District has determined that this exemption will not increase the probability of accidents, nor will it affect containment performance

^{1/} Technical Evaluation Report prepared by the Franklin Research Center for the Nuclear Regulatory Commission June 12, 1981. This document is referenced in the Safety Evaluation Report for the exemption granted. The exemption was forwarded to the District via letter from D. G. Eisenhut (NRC) to J. M. Pilant (NPPD) dated September 3, 1982.

post-accident. The proposed exemption involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and it involves no significant hazards consideration, and there is no significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need to be prepared in connection with the issuance of the exemption.

In summary, the District has concluded that the exemption request discussed above, is warranted under the standards of 10 CFR 50.12. The exemption is requested to remain in effect for the remainder of the CNS operating license, or until otherwise requested (and granted).