UNITED STATES NUCLEAR REGULATORY COMMISSION

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering the issuance of an exemption to Facility Operating License No. DPR-46 to the Nebraska Public Power District (the licensee), for the operation of the Cooper Nuclear Station (CNS), located in Nemaha County, Nebraska.

ENVIRONMENTAL ASSESSMENT

Identification of Proposed Action

The proposed action would grant an exemption from the requirements of Section III.C.1 of Appendix J to 10 CFR Part 50, to allow Type C testing (local leak rate testing) of four containment isolation valves in the reverse direction.

The proposed action is in accordance with the licensee's application for exemption dated June 29, 1994.

The Need for the Proposed Action

The purpose of Type C testing is to measure the leakage through the primary reactor containment and thereby provide assurance that it does not exceed the maximum allowable leakage rates. Prior to a recent contractor review of local leakrate testing methodology, the licensee had made the determination that reverse direction testing of the subject containment isolation valves produced equivalent or more conservative results than testing

in the accident direction. The contractor review disclosed that, while reverse pressure testing for the subject valves (two globe valves and two stop-check globe valves) was conservative with respect to measuring leakage past the valve seating surfaces, such testing may be non-conservative with respect to packing leakage and body-to-bonnet leakage. Packing and body-to-bonnet leakage cannot be quantified by reverse pressure testing because the physical configurations of the valves are such that valve packing and the valve bonnets are not exposed to test pressure. The four valves are not testable in the accident direction due to the inability to isolate the valves from containment and the lack of test connections.

Several factors are cited by the licensee in its June 29, 1994, request for exemption to demonstrate that a high level of confidence exists that reverse direction pressure testing does not yield significantly different results than what would be expected in the accident direction. First, reverse pressure testing of globe valves generally results in a conservative seat leakage measurement because the pressurization test applies force in the direction that would unseat the disk. Any increase in leakage attributable to this factor would tend to offset the inability to measure packing and body-to-bonnet leakage on the non-testable side of the valve. Second, all subject valves are tested in the accident direction during integrated leakrate tests, thus exposing all pressure retaining parts, including the bonnet and packing, to the design basis pressure (58 psig).

Third, integrated leakrate test results historically have not indicated any significant leakage through these two paths. As of June 22, 1994, total minimum path as-left leakage for all type B and C tests measured 117.95 standard cubic feet per hour. The 1991 integrated leakrate test yielded a

total measured leakrate of 102.5 standard cubic feet per hour. These results demonstrate that significant margin exists with respect to the startup limit of 189 standard cubic feet per hour and the total allowable limit of 316 standard cubic feet per hour. Thus, there is confidence that the requirements of 10 CFR Part 50, Appendix J, and the Cooper Nuclear Station Technical Specifications continue to be met.

Fourth, valve packing and body-to-bonnet gaskets do not contain materials that degrade as a result of the mild service conditions to which they are subjected during normal operations and periodic surveillance testing.

Finally, while the above factors may provide reasonable assurrance that leakage through the bonnet and the packing is not a problem for the four subject valves, the licensee has proposed additional actions in order to justify permanent exemptions from the "equivalent or more conservative" results requirement of 10 CFR Part 50, Appendix J. Specifically the licensee proposes to perform soap bubble tests to detect body-to-bonnet or packing leakage while these pressure retaining boundaries are pressurized in the accident direction during future integrated leakrate tests. A "zero bubble" or zero detectable leakage acceptance criteria would be satisfied to demonstrate the leak-tightness of the packing and valve bonnets. Additionally, the licensee proposes to specifically observe the two stop-check globe valves for indication of leakage througn the insulation during scheduled system surveillance tests which subject the valves to pressurization.

Without the proposed exemption, the licensee would be forced, at significant cost but without any significant increase in public health and safety, to implement plant modifications to permit local leakrate testing with test pressure applied in the accident direction. Further, such

actions would delay the restart date of the current outage, which is currently scheduled for July 11, 1994.

Environmental Impacts of the Proposed Action

The Commission has completed its evaluation of the proposed action and concludes that the proposed exemption would allow permanent individual exemptions from Appendix J to 10 CFR Part 50 to allow Type C testing of four isolation valves in the reverse direction.

The change will not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released offsite, and there is no significant increase in the allowable individual or cumulative occupational radiation exposure. Accordingly, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does involve features located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Accordingly, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed action.

Alternative to the Proposed Action

Since the Commission concluded that there are no significant environmental impacts associated with the proposed action, any alternatives to the exemption will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested exemption. Denial would not reduce the environmental impacts attributed to the facility

but would result in the expenditure of resources and increase radiation exposures without any compensating benefit.

Alternative Use of Resources

This action does not involve the use of any resources not previously considered in the Final Environmental Statement for the Cooper Nuclear Station, dated February 1973.

Agencies and Persons Consulted

The NRC staff consulted with the Nebraska State official regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

Based upon the environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to this action, see the request for exemption dated June 29, 199[illegible]ch is available for public inspection at the Commission's Public Document Room, 2120 L Street, NW, Washington, DC 20555, and at the local public document room located at the Auburn Public Library, 118 15th Street, Auburn, Nebraska 68305.

Dated at Rockville, Maryland, [illegible] 8th day of July 1994.

FOR THE NUCLEAR REGULATORY COMMISSION

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