Nebraska Public Power District

April 4, 1977

Director, Nuclear Reactor Regulation
Attention: Mr. D. L. Ziemann, Chief
Operating Reactors Branch No. 2
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Exemption Requests - Additional Information
10 CFR Part 50, Appendix J
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Dear Mr. Ziemann:

This letter is in response to your letter of February 17, 1977 which requested additional information regarding two proposed exemption requests to the requirements of 10 CFR Part 50, Appendix J for Cooper Nuclear Station. Specifically, we were requested to propose an acceptance criterion for Personnel Airlock Door Testing at 3 psig and additional justification for testing the Feedwater Check Valves with water rather than air or nitrogen.

With regard to the Personnel Airlock Leak Testing, the correlation presently used to correct 3 psig leak rates to 56 psig leak rates is the square root of the ratio of the pressures as shown in the below equation.

If P_r = 3 psig
P_a = 56 psig
L_r = Leakage at 3 psig in scfh.
L_a = Leakage at 56 psig in scfh.

Then L_r is related to L_a by the following equation:

$$L_r = L_a \left(\frac{P_r}{P_a} \right)^{1/2} = L_a \left(\frac{3}{56} \right)^{1/2} = .23 \, L_a$$

In the Primary Containment Local Leak Rate Test Procedure each of the primary containment test volumes has an allowable leak rate listed. The personnel airlock penetration, X-2, has an allowable leakage of 6.3 scfh at 56 psig and 1.36 scfh at 3 psig. This allowable leakage of 1.36 scfh at 3 psig is corrected from 56 psig by the square root of the ratio of the pressures and also includes a 3% total design...

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We would like to indicate that the above correlation was incorporated into the Surveillance Test Procedure for Cooper Station local leak rate testing in January 1973.

Effort is continuing on the task to provide the additional information requested relative to testing the Feedwater Check Valves without water, however, this task has not been completed. This evaluation is currently scheduled to be finished and our response submitted by Friday, June 3, 1977.

Should you have any questions or comments regarding the above, please do not hesitate to contact us.

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Sincerely,

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Director of Licensing and
Quality Assurance

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