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SUBJECT: Application for Proposed Amend 68 to License DPR-43, developing consistency between 10CFR50,App J & Tech Specs re air lock surveillance testing.

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WISCONSIN PUBLIC SERVICE CORPORATION

P.O. Box 700, Green Bay, Wisconsin 54305

July 11, 1985

Dr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Proposed Amendment No. 68, Air Lock Surveillance Testing

References:
1) C. W. Giesler to S. A. Varga, November 10, 1982, Proposed Amendment No. 52
2) C. W. Giesler to S. A. Varga, January 13, 1983, Proposed Amendment No. 52A
3) C. W. Giesler to Dr. H. R. Denton, August 9, 1983, Proposed Amendment No. 52B
4) C. W. Giesler to Dr. H. R. Denton, January 22, 1985, Proposed Amendment No. 52C
5) S. A. Varga to C. W. Giesler, April 24, 1984, Interpretation of Appendix J, Air Lock Testing

This proposed technical specification amendment is being submitted to develop consistency between 10 CFR 50, Appendix J and the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications regarding air lock surveillance testing. Current air lock testing methods at Kewaunee are consistent with Appendix J; however, the KNPP Technical Specifications are not explicit in all the requirements and acceptance criteria listed in Appendix J.

Proposed amendment No. 68 includes an interpretation WPSC received from the NRC (reference 5) that when containment integrity is maintained, even though not required by Technical Specifications, and the air lock is opened, paragraph III.D.2(b)(iii) of Appendix J applies rather than III.D.2(b)(ii).

Proposed technical specification amendments 52, 52A, 52B, and 52C (references 1 through 4) address 10 CFR 50, Appendix J. Proposed amendment No. 68 is con-

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sistent with proposed amendments 52 except that No. 68 proposes a reduced air lock door seal test pressure and acceptance criterion.

KNPP Technical Specifications presently require the seal test to be performed at P_a (46 psig). Pressurizing the volume between the O-rings and sealing surface creates an unseating force on the air lock door; hence a large bearing force must be maintained between the two O-rings and sealing surface. This large bearing force has lead to premature seal failure and increased maintenance on the air lock door operating mechanism. The proposed air lock door double seal test pressure of 10 psig will alleviate the above concerns while providing an accurate measure of seal integrity.

Proposed amendment No. 68 is being submitted separate from proposed amendments 52 in order to expedite revision of the air lock surveillance testing technical specifications.

Below is a description, safety analysis, and significant hazards determination for proposed amendment No. 68.

Technical Specification 4.4.b.4
Description of Proposed Change

Technical Specification 4.4.b.4 was revised to provide consistency between it and 10 CFR 50, Appendix J. It was also revised to include the NRC's interpretation (reference 5) that when air lock doors are opened when containment integrity is maintained, although not required by the technical specifications, paragraph III.D.2(b)(iii) applies rather than III.D.2.b(ii).

Also, Technical Specification 4.4.b.4 was revised to allow air lock door seal tests to be performed at 10 psig rather than 46 psig, with an acceptance criterion of $0.005L_a$ rather than adding the seal leakage to the cumulative type B & C leakage and comparing the total to $0.6\ L_a$. The overall air lock leakage rate will continue to be added to the cumulative type B and C leakage, with acceptance criterion of $0.6\ L_a$.

Safety Analysis for Proposed Technical Specification 4.4.b.4

There are no safety implications for the first two changes described above, providing consistency with Appendix J and an NRC interpretation.

The air lock doors at Kewaunee are designed to seat into the seal with post accident pressure on the containment side of the door. Pressurizing between the air lock door double seals imposes an unseating force on the air lock door. The air lock manufacturer suggests, and experience shows that damage may result to the door operating mechanical linkages and seals from the large bearing force that must be maintained between the O-rings and sealing surface to conduct the test at 46 psig.

To alleviate this concern and enhance air lock reliability the pressure for air lock seal tests has been reduced to 10 psig with an acceptance criterion of $0.005\ L_a$.

The reduced test pressure is consistent with 10 CFR 50, Appendix J, III.D.2(b)(iii) which states in part

> "In the event that the (seal) testing for this three day interval cannot be at P_a, the test pressure shall be as stated in the Technical Specifications"

The acceptance criterion, which must be included in the technical specifications per 10 CFR 50, Appendix J, III.D.2(b)(iv), was established by conservatively extrapolating the overall air lock leakage rate specified in Standard Technical Specifications (NUREG-0452) to an equivalent leakage rate at the reduced test pressure. With the large degree of conservatism in this leakage rate limit, exceeding this limit would not preclude subsequent performance of an overall leakage test at P_a to demonstrate air lock operability.

The performance of air lock seal testing at reduced pressure and acceptance criterion is consistent with Appendix J and Standard Technical Specifications (NUREG 0452).

Significant Hazards Determination for Proposed Technical Specification 4.4.b.4

This technical specification change does not pose a significant hazard since there are no safety limits or bases of safety limits being relaxed, there is no relaxation in limiting conditions of operation, core power level is not increased, there are no unreviewed safety questions, and safety margins are not compromised.

In accordance with the requirements of 10 CFR 50.30, you will find enclosed three (3) signed and notarized originals of this letter and forty (40) copies of the revisions to the pages affected by proposed amendment 68. A complete copy of this submittal has been transmitted to the State of Wisconsin as required by 10 CFR 50.91(b)(1).

This submittal addresses the same technical issue as proposed amendments 52 which addressed the same issue as proposed amendment No. 23 dated November 5, 1975. Proposed amendment No. 23 was submitted prior to the March 23, 1978, enactment of 10 CFR 170.22, thereby exempting this issue (Appendix J) from fees for processing license, Schedule of Fees for Facility License Amendments.

Very truly yours,

Carl W. Giesler
Vice President - Power Production

GWH/jks
Enclosure
cc - Mr. S. A. Varga, US NRC
Mr. Robert Nelson, US NRC
Mr. R. S. Cullen, PSCW

Subscribed and Sworn to
Before Me This 11th Day
of July 1985

Notary Public, State of Wisconsin

My Commission Expires:
June 28, 1987