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DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Amend to 821110 Proposed Amend 52 to License DPR-43 re containment leak rate testing.NRC safety evaluation resulted in four open items.Amend to application will resolve three items.

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NRC-83-153

WISCONSIN PUBLIC SERVICE CORPORATION

P.O. Box 1200, Green Bay, Wisconsin 54305

August 9, 1983

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. 52B, Appendix J Technical Specifications

References:
1) C. W. Giesler to Dr. Harold Denton, Proposed Amendment No. 52 dated November 10, 1982
2) C. W. Giesler to S. A. Varga, Revision A to Proposed Amendment No. 52 dated January 13, 1983
3) Containment Systems Branch Safety Evaluation Report on Proposed Changes to Technical Specifications Concerning Appendix J, Leak Rate Tests Kewaunee Nuclear Generating Plant Transmitted June 6, 1983

This letter addresses the Containment System Branch's (CSB) Safety Evaluation Report on Proposed Amendment No. 52. Proposed Amendment No. 52, dated November 10, 1982, was in regards to 10CFR50 Appendix J, Containment Leak Rate Testing. Four open items resulted from the CSB's Safety Evaluation Report. These open items were discussed during a conference call on July 11, 1983. As discussed in the conference call we have resolved three of the four open items and are submitting proposed changes to Proposed Amendment No. 52 for the three items on which we agree.

Since our teleconference of July 11, 1983 an issue concerning air lock testing has surfaced. The issue is in regard to appropriate air lock testing methods following periods when the air lock is opened but containment integrity is maintained. This issue is discussed under Description of Proposed Change for Technical Specification 4.4.b.4 below.

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The pages of Proposed Amendment No. 52 which are affected by these changes are identified as Proposed Amendment No. 52B, dated July 18, 1983, and are attached with this letter. The changes are discussed below.

Technical Specification 4.4.a.3

Description of Proposed Change, attached page T.S. 4.4-10

Technical Specification 4.4.a.3 concerns Type A tests performed in less than 24 hours. The Staff endorses Bechtel Topical Report BN-TOP-1 for the method to conduct and analyze an ILRT completed in less than 24 hours. We agree and have made mention of BN-TOP-1 as our intended guidance for ILRT's of duration less than 24 hours. BN-TOP-1 is mentioned in the basis for TS 4.4.a.3.

Safety Analysis for Proposed Technical Specification 4.4.a.3

This technical specification change does not pose an unreviewed safety question. Bechtel Topical Report BN-TOP-1 has been reviewed and approved by the commission as an acceptable means to conduct an ILRT in less than 24 hours.

Significant Hazards Determination for Proposed Technical Specification 4.4.a.3

This technical specification change does not pose any significant hazards 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.

Technical Specification 4.4.a.8

Description of Proposed Change, attached Page T.S. 4.4-3

The Containment Systems Branch of the NRC points out that in Proposed Technical Specification T.S. 4.4.a.8, dated November 10, 1982, we said, "If the leak rate determined by any test exceeds the maximum allowable leak rate, the test schedule applicable to subsequent ILRT's shall be subject to review. . ." The CSB goes on to say that Appendix J, Section III.A.6 specifies that for a Type A test to be successful, the leakage rate must be less than 0.75 La or 0.75 Lt. We agree the acceptance criterion is misstated in T.S. 4.4.a.8 and have changed it accordingly.

Safety Analysis for Proposed Technical Specification 4.4.a.8

There is no unreviewed safety question for this technical specification change. The change provides consistency with Appendix J.

Significant Hazards Determination for Proposed Technical Specification 4.4.a.8

This technical specification change does not pose any significant hazards for the same reason as Technical Specification 4.4.a.3.

Technical Specification 4.4.b.4

Description of Proposed Change, attached page T.S. 4.4-4

The Staff has expressed concern that Proposed Technical Specification 4.4.b.4 does not clearly state the test pressure or acceptance criterion for testing the air lock door double seals. We had intended the air lock door double seal test pressure and acceptance criterion to be that of a Type B test. T.S. 4.4.b.4 has been revised to clarify this intent.

Also in regards to air lock testing, we have identified a situation where an exemption to verbatim compliance with Appendix J is appropriate.

We have recently begun a program of steam generator crevice flushing prior to returning to power after a refueling outage. Upon completion of refueling activities containment integrity is established and the reactor coolant system (RCS) is heated up in preparation for crevice flushing. The Kewaunee Nuclear Plant's Technical Specifications require containment integrity when the RCS is above 200°F. During the crevice flushing procedure the RCS temperature is raised above 200°F to pressurize the steam generator(s) and cooled below 200°F while blowing down the steam generator(s). A containment entry is made after a blow down, while the RCS is below 200°F, to obtain a sample from the steam generator(s). Containment integrity is maintained while obtaining a steam generator sample although it is not required by the Plant's Technical Specifications. As required by verbatim compliance to Appendix J, III.D.2.b(11), "Air locks opened 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 Pa." It is evident that when containment integrity is maintained whether or not it is required by the Plant's Technical Specifications, Appendix J, III.D.2.b(iii) more appropriately specifies the testing requirement. Section III.D.2.b(iii) addresses testing air locks opened during periods when containment integrity is required by the Plant's Technical Specifications.

It is clear that the intent of this rule is to test the entire air lock after a period when containment integrity was not required, and containment integrity was broken; and to allow testing of the air lock double seals in lieu of an entire air lock test when an air lock is opened and containment integrity is required. Requiring containment integrity or maintaining containment integrity result in the same thing: containment integrity.

An exemption to Appendix J is appropriate, as allowed by 10CFR50.12, that allows the periodic retest criterion of 10CFR50, Appendix J, Section

III.D.2.b(iii) to apply to opening an air lock while maintaining containment integrity albeit not required by the Plant's Technical Specifications.

Technical Specification 4.4.b.4 has been reworded appropriately.

Safety Analysis for Proposed Technical Specification 4.4.b.4

The air lock door double seal at KNPP is designed such that it is capable of being pressurized to 46 psig (Pa). Testing at Pa and requiring the leakage (when substituted for the air lock leakage) when summed with the other B and C leakage to be less than 0.60 La is consistent with Appendix J. The air lock door double seals have been periodically pressurized to Pa since initial start-up without incident, hence future pressurization does not pose a safety question.

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

This technical specification change does not pose any significant hazards for the same reason as proposed Technical Specification 4.4.a.3.

The fourth open item in the Containment System's Branch Safety Evaluation Report, and the item on which we still disagree, is in regards to the method of reporting the results of Type A and Type B and C tests when all of these tests are performed during the same outage. Our position is that these tests are independent, and that their independence should be maintained in the method of reporting. The staff has indicated that the Type B and C test results should be algebraically manipulated to determine the "repaired" leakage which is added to the Type A test results.

This requirement imposed by the staff is based on an interpretation which goes beyond the requirements of Appendix J to 10CFR50, and is not justified by Appendix J.

First, the Type B and C tests, or local leak rate tests, are independent of the Type A, or integrated leak rate tests. This independence is clearly supported by Appendix J: the schedules defined in Appendix J are different for these tests, the acceptance criteria are different, and the purposes of the tests are different. The independent nature of these tests becomes clear under the realization that separate rules could have been written for each of these tests, without changing the intent of them.

The different schedules for Type B and C tests compared to Type A test is based on the intent of these tests. Local leak rate testing provides an annual "detect and repair" surveillance program which covers the most likely potential leakage paths (i.e., isolation valves and seals, gaskets and bellows, among others). This testing is performed on an annual basis. On the other hand, the integrated leak rate testing is done less frequently, providing two functions: it detects degradation of the containment which is not

found by local leak rate testing, and it provides a measure of the adequacy of the more frequent local leak rate testing program to maintain containment leakage below allowable limits.

The fact that Type A tests and Type B and C tests occasionally are performed during the same outage is an artifact of their respective testing schedules and is not indicative of an intent to consider these tests as one. In fact, Appendix J and ANSI-N45.4-1972 both suggest that Type B and C tests be performed prior to Type A tests when the two are coincident upon an outage. This suggestion is made with no requirement or mention of combining the results of these tests. The statements of consideration related to the Appendix J regulations do not mention combining these test results either. Clearly, the staff's suggestion to combine these results is an interpretation not justified by Appendix J.

Secondly, it is arbitrary and unrealistic to add a given set of local leak rate results to the integrated test results. Each year local leak rate testing is performed, and identified leaks are repaired. There is no justification for adding the results for a given year of this testing to the Type A test only because the two tests are coincident upon an outage.

Furthermore, the method of data reduction used in local leak rate testing leads to unnecessarily conservative results which are not realistic and which could have severe economic impact when it is assumed to be part of the Type A test. Specifically, in performing Type C tests where there are two (2) isolation valves in series containment leakage is always assumed to be that of the valve which leaks the most. Calculating Type C leakage in this fashion disregards the fact that these are two valves in series one of which would hold containment atmosphere better than the other. The summation of these leakages over fifty or more penetrations results in very conservative and unrealistic results, even from single failure considerations. Therefore, including these results as part of the Type A test could result in a test failure even though the results are not indicative of a safety problem. Of course, failure of a Type A test would require more frequent testing of this type which would have severe economic impact.

Finally, the method of reporting Type A, B and C test results that we have used in the past (and incidentally, is a common practice within the industry) is in full compliance with the requirements of Appendix J, and provides complete information on all tests. The staff is free to review this data in whatever light they desire, since it is available and readily accessible to them. This reporting method provides an equivalent level of protection of the health and safety of the public as including Type B and C repaired leakage in the Type A test results.

As we noted in the conference call of July 11, 1983, we propose that our Proposed Amendment be approved to enable close-out of this long-open issue while working toward resolution of this last difference of opinion. Furthermore, we invite you to comment on the technical merits of this issue, hoping that you will seriously consider the points noted above.

Additionally, we understand that section 4.4.c., Shield Building Ventilation, of our Proposed Amendment No. 52 is still under review.

In accordance with the requirements of 10CFR50.90, please find enclosed three (3) signed and notorized originals of this letter and forty (40) copies of the revision to the pages affected by 52B.

This submittal addresses the same technical issue as Proposed Amendment No. 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 10CFR170.22, Schedule of Fees for Facility License Amendments, thereby exempting this issue (Appendix J) from fees for processing license amendments.

Very truly yours,

Carl W. Giesler

C. W. Giesler
Vice President - Nuclear Power

js

Enc.

cc - Mr. S. A. Varga, US NRC
Mr. Robert Nelson, US NRC

Subscribed and Sworn to
Before Me This 9th Day
of August 1983

Jeanne M. Stein
Notary Public, State of Wisconsin

My Commission Expires:
June 28, 1987