

UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

June 24, 1998

50-305

Mr. M. L. Marchi Site Vice President - Kewaunee Plant Wisconsin Public Service Corporation P.O. Box 19002 Green Bay, WI 54307-9002

SUBJECT: CORRECTIONS TO AMENDMENT NO. 136 TO FACILITY OPERATING LICENSE NO. DPR-43 - KEWAUNEE NUCLEAR POWER PLANT (TAC NO. MA1271)

Dear Mr. Marchi:

On May 28, 1998, the U.S. Nuclear Regulatory Commission issued Amendment No.136 to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant. The amendment revised the Technical Specifications (TSs) in response to your application dated February 25, 1998.

This amendment revised the TSs to permit implementation of performance-based containment leakage testing under Option B of 10 CFR 50, Appendix J. The Safety Evaluation (SE) for Amendment No. 136 contained errors which are corrected in the enclosed Revision 1 of the SE. Also, there is some confusion as to the requirements associated with the specified implementation date. The corrections and clarifications to the SE are as follows:

- In the second paragraph of Section 1.0, reference is made to Wisconsin Power and Light Company (WPL) as the licensee making the submittal, whereas the licensee is Wisconsin Public Service Corporation (WPSC) (acting in behalf of itself, WPL and Madison Gas and Electric Company).
- 2) The third paragraph of Section 3.0 states "...the existing TS do not contain bypass leakage limits; thus no such limits are included in the proposed TS." This statement is subject to confusion. Therefore, the paragraph has been revised for clarity.
- 3) A subparagraph of the fifth paragraph of Section 3.0 states that WPSC does all airlock tests at Pa. It is understood that airlock chamber tests are performed at Pa but airlock door seals may be tested at a reduced pressure. This is acceptable and does not affect the conclusions stated in the SE. We have deleted the subparagraph that incorrectly indicated that all airlock tests are performed at Pa.
- 4) Various misspellings and typographical errors have been corrected.

Section 3 of Amendment No 136 is specified as "effective as of the date of its issuance, and is to be implemented within 30 days of the date of issuance." This requires that, within 30 days,

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you establish a program plan for implementation of Option B. As a matter of clarification, the staff notes that new containment and containment penetration test intervals need not be established until such time as the old tests expire.

Changes are marked by lines in the margin. If you have any questions regarding this matter, please contact me at (301) 415-3026.

Sincerely,

Original signed by:

William O. Long, Sr. Project Manager Project Directorate III-3 Division of Reactor Projects III/IV Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosure: As stated

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Enclosure: As stated

M. L. Marchi Wisconsin Public Service Corporation

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UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO AMENDMENT NO. 136 TO FACILITY OPERATING LICENSE NO. DPR-43

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

1.0 INTRODUCTION

On September 12, 1995, the U.S. Nuclear Regulatory Commission (NRC) approved issuance of a revision to 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The NRC added Option B, "Performance-Based Requirements," to allow licensees to voluntarily replace the prescriptive testing requirements of 10 CFR Part 50, Appendix J, with testing requirements based on both overall performance and the performance of individual components.

By letter dated February 25, 1998, the Wisconsin Public Service Corporation (the licensee) requested changes to the Technical Specifications (TS) for the Kewaunee Nuclear Power Plant. The proposed changes would permit implementation of 10 CFR Part 50, Appendix J, Option B. The licensee has established a "10 CFR 50 Appendix J Testing Program Plan," and proposed adding this program plan to the TS. The program plan references Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, which specifies a method acceptable to the NRC for complying with Option B.

2.0 BACKGROUND

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Compliance with 10 CFR Part 50, Appendix J, provides assurance that the primary containment. including the penetrations for those systems and components which penetrate the primary containment boundary, does not exceed the maximum allowable leakage rate specified in the TS and Bases. The allowable leakage rate is based on the leakage rate assumed in the safety analyses.

On February 4, 1992, the NRC published a notice in the Federal Register (57 FR 4166) discussing an initiative to eliminate requirements marginal to safety which impose a significant regulatory burden. Part 50, Appendix J, "Primary Containment Leakage Testing for WaterCooled Power Reactors," was considered for this initiative and the staff undertook a study of possible changes to this regulation. The study examined the previous performance history of domestic containments and the effect on risk of a revision to the requirements of Appendix J. The results of this study were reported in NUREG-1493, "Performance-Based Leak-Test Program."

Based on the results of this study, the staff developed a performance-based approach to containment leakage rate testing. On September 12, 1995, the NRC approved issuance of this revision to 10 CFR Part 50, Appendix J, which was subsequently published in the <u>Federal</u> <u>Register</u> on September 26, 1995, and became effective on October 26, 1995. The revision added Option B, "Performance-Based Requirements," to Appendix J to allow licensees to voluntarily replace the prescriptive testing requirements of Appendix J with testing requirements based on both overall and individual component leakage rate performance.

Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, was developed as a method acceptable to the NRC staff for implementing Option B. This regulatory guide states that the Nuclear Energy Institute (NEI) guidance document NEI 94-01, Rev. 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," provides methods acceptable to the NRC staff for complying with Option B with four exceptions which are described therein.

Option B requires that Regulatory Guide 1.163 or another implementation document used by a licensee to develop a performance-based leakage testing program must be included, by general reference, in the plant TS. The licensee has referenced Regulatory Guide 1.163 in the proposed Technical Specification 6.20, "Containment Leakage Rate Testing Program."

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Regulatory Guide 1.163 specifies an extension in Type A test frequency to at least one test in 10 years based upon two consecutive successful tests. Type B tests may be extended up to a maximum interval of 10 years based upon completion of two consecutive successful tests and Type C tests may be extended up to 5 years based on two consecutive successful tests.

By letter dated October 20, 1995, NEI proposed model TS for use in preparation of applications to implement Option B. After some discussion, the staff and NEI agreed on final TS which were transmitted to NEI (letter to David J. Modeen dated November 2, 1995).

In order for a licensee to determine the leakage rate performance of each component, factors that are indicative of or affect performance, such as an administrative leakage limit, must be established. The administrative limit is selected to be indicative of the potential onset of component degradation. Although these limits are subject to NRC inspection to assure that they are selected in a reasonable manner, they are not TS requirements. Failure to meet an administrative limit requires the licensee to return to the minimum value of the test interval.

Option B requires that the licensee maintain records to show that the criteria for Type A, B, and C tests have been met. In addition, the licensee must maintain comparisons of the performance of the overall containment system and the individual components to show that the test intervals are adequate. These records are subject to NRC inspection.

3.0 EVALUATION

The licensee's February 25, 1998, application proposes to establish a "10 CFR 50 Appendix J Testing Program Plan," and proposes to add this program plan to the TS. The program plan references Regulatory Guide 1.163, "Performance-Based Containment Leak Test Program," dated September 1995, which specifies methods acceptable to the NRC for complying with Option B. This requires changes to existing TS 4.4, and the addition of the "10 CFR 50 Appendix J Testing Program Plan" requirements as Section 6.20.

Option B permits a licensee to choose Type A, or Type B and C, or Type A, B, and C testing to be done on a performance basis. The licensee has elected to perform Type A, B, and C testing on a performance basis.

The staff's acceptance criteria for evaluation of TS amendment applications to permit use of Option B are identified in C.Y. Shiraki's memoranda to R.A. Capra dated March 13, 1996, and October 29, 1996 (PDR Accession Nos. 9603190160 and 9610310026, respectively). The acceptance criteria require that any change to augmented leakage testing requirements applicable to resiliently seated butterfly containment isolation valves be identified and also, that special (non-Appendix J) tests, such as bypass tests, that have a test frequency that is linked to Appendix J test intervals retain the existing test frequency. These criteria are not applicable to Kewaunee.

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The licensee has not identified any proposed exceptions to Regulatory Guide 1.163.

The TS changes proposed by the licensee are in compliance with the requirements of Option B and consistent with the staff's acceptance criteria. All of the important elements of the model TS guidance provided in the NRC letter to NEI dated November 2, 1995, are included in the proposed TS, with a few exceptions as discussed below.

The provisions of Option B of Appendix J and Regulatory Guide 1.163 do not require separate, individual air lock leakage rate testing acceptance criteria to be placed in the TS. Based on the foregoing, the staff finds this exception from the guidance to be acceptable.

As discussed in the staff's exemption dated September 30, 1982, the Residual Heat Removal System, Containment Spray System, and Safety Injection System at Kewaunee have closed piping loops outside containment that constitute extensions of containment. The isolation valves for these piping systems are OPEN, and the piping filled with water, under post-accident conditions. This is necessary to permit operation of safety systems. The piping is leak-tested with water each refueling outage consistent with the requirements of TS 4.4 "Containment Tests" and TS 6.12 "System Integrity." The proposed amendment would eliminate the TS 4.4 text related to these testing requirements. This is acceptable based on the retention of TS 6.12 which assures that performance of such testing is continued at each refueling outage.

In summary, the staff has reviewed the changes proposed by the licensee and finds that they are in compliance with the requirements of Appendix J, Option B, and are consistent with the

guidance of Regulatory Guide 1.163 and conform with the model TS except as noted above, and are therefore acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding (63 FR 17237). Accordingly, this amendment 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 be prepared in connection with the issuance of this amendment.

6.0 <u>CONCLUSION</u>

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: W. Long

Date: September 12, 1998