Wisconsin Electric
POWER COMPANY

Point Beach Nuclear Plant
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NPL 99-0705

December 2, 1999

10 CFR 50, Appendix A, GDC 4

Document Control Desk
U.S. NUCLEAR REGULATORY COMMISSION
Mail Stop P1-137
Washington, DC 20555

Ladies and Gentlemen:

DOCKETS 50-266 AND 50-301
DYNAMIC EFFECTS DESIGN BASIS REVIEW REQUEST
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

As required by 10 CFR 50, Appendix A, General Design Criterion 4, Wisconsin Electric requests review and approval of the enclosed evaluations. These evaluations demonstrate that the probability of rupture of certain specific piping interfacing with, or part of, the reactor coolant system, is extremely low and that leak detection capability is sufficient to detect leakage and allow appropriate action to be taken to prevent such an unlikely event from occurring. Thus, the evaluations demonstrate the acceptability of applying "leak-before-break" to this piping for Point Beach Nuclear Plant, Units 1 and 2.

General Design Criterion (GDC) 4, "Environmental And Dynamic Effects Design Bases," requires that structures systems and components important to safety be protected from the dynamic effects of postulated pipe ruptures. GDC 4 further states, "Nuclear power units may be excluded from this design bases when analyses reviewed and approved by the Commission demonstrate that the probability of fluid system pipe rupture is extremely low under conditions consistent with the design basis of the piping."

Analyses were performed by Westinghouse and reviewed and approved by the Commission that concluded that assymetric blowdown loads resulting from double-ended pipe breaks in main coolant loop piping need not be considered as a design basis for Westinghouse Owner's Group plants, including Point Beach Nuclear Plant, Units 1 and 2. The evaluation was approved as documented in Generic Letter 84-04, "Safety Evaluation of Westinghouse Topical Reports Dealing With Elimination Of Postulated Pipe Breaks In PWR Primary Main Loops," dated February 1, 1984. The approval was predicated on at least one leak detection system with a sensitivity capable of detecting 1 gpm in four hours. As PBNP meets the conditions of the Safety Evaluation, the consideration of the dynamic effects of primary loop pipe ruptures was eliminated as a design requirement for PBNP upon revision of GDC 4 effective November 27, 1987.

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Evaluations were recently completed on additional piping in or interfacing with the reactor coolant system, which demonstrate that the probability of pipe rupture is extremely low under conditions consistent with the design basis of the piping. The piping evaluated includes the entire pressurizer surge line from the primary loop nozzle junction to the pressurizer nozzle junction; the safety injection accumulator lines from the reactor coolant system loop to the accumulator tanks, and connecting 10-inch lines to the containment penetration; and, the high energy Class I portions of the residual heat removal system lines (primary loop junction to the second isolation valve). The recommendations and criteria proposed in draft SRP 3.6.3, "Leak-Before-Break Evaluation Procedures," were used in the evaluations. These evaluations demonstrate there is at least a factor of two between the leakage flaw size and critical flaw size; and, a factor of 10 between the calculated leak rate at the leakage flaw size and leak detection capability at PBNP. Therefore, Wisconsin Electric proposes to eliminate these lines from consideration of dynamic effects of postulated pipe ruptures at the Point Beach Nuclear Plant per the allowances of GDC 4.

Submitted for Commission review and approval are the following evaluations:

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| WCAP 15065 (Proprietary)<br>WCAP 15066 (non-Proprietary) | Technical Justification for Eliminating Pressurizer Surge Line Rupture as the Structural Design Basis for Point Beach Units 1 and 2 Nuclear Plant |
| WCAP 15105 (Proprietary)<br>WCAP 15106 (non-Proprietary) | Technical Justification for Eliminating Residual Heat Removal (RHR) Lines Rupture as the Structural Design Basis for Point Beach Units 1 and 2 Nuclear Plant |
| WCAP 15107 (Proprietary)<br>WCAP 15108 (non-Proprietary) | Technical Justification for Eliminating Accumulator Lines Rupture as the Structural Design Basis for Point Beach Units 1 and 2 Nuclear Plant |

Upon approval of these evaluations, per the allowances of GDC 4, these lines will be eliminated from consideration of the dynamic effects of postulated pipe ruptures in the PBNP design basis.

Also enclosed are Westinghouse authorization letters, accompanying affidavits, Proprietary Information Notices and Copyright Notices, as applicable, for the above reports.

Since the reports listed above as Proprietary contain information proprietary to Westinghouse Electric Company, they are supported by affidavits signed by Westinghouse, the owner of the information. The affidavits set forth the basis on which the information may be withheld from public disclosure in accordance with 10 CFR 2.790 of the Commission's regulations. Accordingly, it is requested that the information which is proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR 2.790.

Correspondence with respect to the copyright or proprietary aspects of the above reports, or the supporting Westinghouse affidavit, should reference the appropriate authorization letter and be

addressed to N. J. Liparulo, Manager of Equipment Design and Regulatory Engineering, Westinghouse Electric Company, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

As approval of the above evaluations has significant benefits to Wisconsin Electric in the design and operation of PBNP, a timely review is requested.

If you have any questions or require additional information, please contact us.

Sincerely,

A. J. Cayia
Manager,
Regulatory Services and Licensing

TGM/tat

Attachments

cc: NRC Regional Administrator*
NRC Resident Inspector*
Public Service Commission of Wisconsin*
NRC Project Manager*
N. J. Liparulo, Westinghouse*
*w/o attachments