UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO INSERVICE TESTING PROGRAM RELIEF REQUESTS

WISCONSIN ELECTRIC POWER COMPANY

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NO. 50-266 AND 50-301

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a(g), requires that inservice testing (IST) of certain ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where specific written relief has been requested by the licensee and granted by the Commission pursuant to Subsections (a)(3)(i), (a)(3)(ii), or (g)(6)(i) of 10 CFR 50.55a. In requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance with certain requirements of the applicable Code edition and addenda is impractical for its facility.

These regulations authorize the Commission to grant relief from ASME Code requirements upon making the necessary findings. The NRC staff's findings with respect to granting or not granting the relief requested as part of the licensee's IST Program are contained in this Safety Evaluation (SE).

In Wisconsin Electric Power Company's January 24, 1992, submittal, a relief for the Point Beach Nuclear Plant Inservice Test (IST) Program was requested. Evaluation of the new relief request is provided below.

2.0 RELIEF REQUEST PRR-19

The licensee has requested relief from establishing one or more fixed reference values in accordance with ASME Section XI, Paragraphs IWP-3100 and IWP-3112, for the component cooling water and service water pumps.

2.1 Proposed Alternate Testing

The licensee proposes to use a reference curve (i.e. "a loci of values located on either side of a specific value"). The "tolerance around the selected value shall be $\pm$ 2%."

2.2 Licensee's Basis for Relief

The licensee states: "The component cooling water and service water pumps are tested in-situ. These systems contain numerous components which use temperature control valves which automatically adjust position (thereby pump discharge flow) in response to sensed temperature. This manner of operation prevents the setting and maintaining of a single, specific reference value."

2.3 Evaluation

Section XI requires the establishment of one or more fixed sets of pump reference values. The licensee proposes to use a set of reference points, though the description in the licensee's relief request does not provide details on the establishment and use of the reference curves. Requiring the licensee to vary the resistance of the component cooling water or service water systems so that the measured flowrate or differential pressure equals a specific reference value would be an operational hardship since the system's resistance is automatically adjusted based on the system's heat loads. Using reference pump curves in lieu of multiple reference values provides reasonable assurance of the pumps' operational readiness and is an acceptable alternative for pumps that have variable system resistance provided the licensee develops the curves when the pumps are known to be operating acceptably. Additionally, the curves should be based on an adequate number of points, with a minimum of three points, in a range beyond the flat portion of the curves or as close as practical to design flowrates. The curves should be revalidated after any maintenance or repair which might affect the reference curves. A method of assigning alert and required action ranges must be developed and should not conflict with the Technical Specification or Safety Analysis Report operability criteria. Additionally, if vibration levels vary significantly over the range of pump conditions, a method for assigning vibration acceptance criteria should be developed. The licensee should factor these elements into its program and procedures for developing and utilizing pump curves. These will be subject to NRC inspection.

2.4 Conclusions

Based on the determination that imposing the Code requirements would impose a hardship without a compensating increase in the level of quality and safety and that the use of pump curves provides reasonable assurance of the pumps' operational readiness, relief is granted pursuant to 10 CFR 50.55a(a)(3)(ii), provided the licensee's program and procedures incorporate the elements discussed above.

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