



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING PROGRAM REQUESTS FOR RELIEF

MAINE YANKEE ATOMIC POWER COMPANY

MAINE YANKEE ATOMIC POWER STATION

DOCKET NUMBER 50-309

1.0 INTRODUCTION

The Code of Federal Regulations, 10 CFR 50.55a, 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 alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to Sections (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. In proposing alternatives or 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 is impractical for its facility. NRC guidance contained in Generic Letter (GL) 89-04, *Guidance on Developing Acceptable Inservice Testing Programs*, provides alternatives to the Code requirements determined acceptable to the staff.

Title 10 CFR 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making the necessary findings. The NRC staff's findings with respect to authorizing alternatives and granting or not granting the relief(s) requested as part of the licensee's IST program are contained in this safety evaluation (SE).

Furthermore, in rulemaking to 10 CFR 50.55a effective September 8, 1992, (see 57 *Federal Register* 34666), the 1989 Edition of ASME Section XI was incorporated into 10 CFR 50.55a(b). The 1989 Edition provides that the rules for IST of pumps and valves shall meet the requirements set forth in ASME *Operations and Maintenance Standards* Part 6 (OM-6), "Inservice Testing of Pumps in Light-Water Reactor Power Plants," and Part 10 (OM-10), "Inservice Testing of Valves in Light-Water Reactor Power Plants." Pursuant to 10 CFR 50.55a(f)(4)(iv), portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met, and subject to Commission approval. The staff has determined that it is acceptable for a licensee to use OM-6 and OM-10 in developing the IST program.

The licensee's IST program covers the third 10-year IST interval for the Maine Yankee Atomic Power Station, which began December 28, 1992, and ends December 27, 2002. Because of the interval start date, the ASME Code of record is the 1986 Edition of ASME Section XI. However, the licensee has elected to adopt the requirements of OM-6 to develop and implement its pump IST program.

Further, the licensee used the 1986 Edition of ASME Code Section XI to develop and implement its valve testing program, but also identified several sections where Section XI was superseded by the requirements of OM-10. Both program changes are in accordance with 10 CFR 50.55a(f)(4)(iv) as stated above.

2.0 EVALUATION

The Mechanical Engineering Branch, with technical assistance from Idaho National Engineering Laboratory (INEL), has reviewed the information concerning IST program requests for relief submitted for the Maine Yankee Atomic Power Station. The staff adopts the evaluations and recommendations for granting relief or authorizing alternatives contained in the attached technical evaluation report (TER), prepared by INEL. Table 1 of this SE presents a summary of the relief requests, including their disposition ("NRC Action" column).

The test deferrals of valves, as allowed by OM-10, were reviewed. Results of the review are provided in Table 4.1 of the TER with recommendations for further review by the licensee for specific deferrals. In addition, SE Table 2, "Summary of Staff Findings on Maine Yankee Power Station" addresses licensee responses to anomalies identified by the NRC staff in its SE dated April 28, 1992. The staff's SE dated April 28, 1992, addressed the licensee's submittal of December 29, 1989, which responded to Generic Letter 89-04. Safety evaluation Table 2 is presented here for completeness. Actions taken by the licensee on recommendations in both of these tables are subject to NRC inspection.

For the Maine Yankee Atomic Power Station IST program, relief is granted from, or alternatives are authorized to, the testing requirements that have been determined to be impractical to perform, or where compliance would result in a hardship without a compensating increase in safety. Relief Request VRR-3 was denied because the test frequency for disassembly and inspection of check valves did not conform to the guidance provided in Generic Letter 89-04, Position 2.

The IST program relief requests that are granted or authorized are acceptable for implementation--provided the action items identified in Appendix A (IST Program Anomalies) of the TER are addressed within 1 year of the date of this SE, or by the end of the next refueling outage, whichever is later. Additionally, the granting of relief is based on the fulfillment of any commitments made by the licensee in its basis for each relief request and the alternative(s) proposed.

Program changes involving new or revised relief requests should not be implemented prior to approval by the NRC, except as authorized by GL 89-04. New or revised relief requests that meet the positions in GL 89-04, Attachment 1, should be submitted to the NRC, but may be implemented if the guidance in GL 89-04, Section D, is followed. Program changes that add or delete components from the IST program also should be periodically provided to the NRC.

3.0 CONCLUSION

The NRC has identified a number of generic deficiencies that affect plant safety and have frequently appeared as IST programmatic weaknesses. These are addressed by Generic Letter 89-04. In that letter, the staff delineated positions that describe deficiencies and explained alternatives to the ASME Code that the staff considers acceptable. If alternatives are implemented in accordance with the relevant position in the generic letter, the staff has determined that relief should be granted pursuant to 10 CFR 50.55a(g)(6)(i) (now (f)(6)(i) for IST) on the grounds that it is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. In making this determination, the staff has considered the burden on the licensee that would result if the requirements were imposed.

For any relief granted pursuant to Generic Letter 89-04, the staff (with technical assistance from INEL) has reviewed the information submitted by the licensee to determine whether the proposed alternative follows the relevant position in the generic letter. If an alternative conforms to a position of the generic letter, it is listed as having been approved pursuant to Generic Letter 89-04 in Table 1 of this safety evaluation ("NRC Action" column). Any anomalies in the relief requests are addressed in Appendix A of the TER and summarized in SE Table 2.

The licensee's IST program requests for relief from the requirements of ASME Code Section XI have been reviewed by the staff with the assistance of its contractor, INEL. The TER is INEL's evaluation of the licensee's IST program relief requests. The staff has reviewed the TER and concurs with the evaluations and recommendations for granting relief or authorizing alternatives. A summary of the relief requests, including disposition ("NRC Action" column) is presented in SE Table 1. The authorizing of alternatives or granting of relief is based upon the fulfillment of any commitments made by the licensee in its basis for each relief request and the alternatives proposed. The implementation of IST program is subject to inspection by NRC.

The licensee should refer to the TER, Appendix A, for a discussion of IST program anomalies identified during the review. The licensee should resolve all items in accordance with the guidance therein. The IST program relief requests are acceptable for implementation--provided the action items identified in Appendix A of the TER are addressed within 1 year of the date of this SE, or by the end of the next refueling outage, whichever is later. The licensee should respond to the NRC within 1 year of the date of this SE describing actions taken, actions in progress, or actions to be taken, to address each of these items.

The staff concludes that the relief requests as evaluated and modified by this SE will provide reasonable assurance of the operational readiness of the pumps and valves to perform their safety related functions. The staff has determined, pursuant to 10 CFR 50.55a(a)(3)(ii), that compliance with the requirements of 50.55a(a) for which relief is afforded would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Further, the staff has determined that granting relief pursuant to 10 CFR 50.55a(f)(6)(i) and authorizing alternatives pursuant to 10 CFR 50.55a(a)(3)(ii) are authorized by law and will not endanger life or property, or the common defense and security and are otherwise in the public interest. In making this determination, the staff has considered the impracticality of performing the required testing and the burden on the licensee if the requirements were imposed.

Attachment: Technical Evaluation Report

Principal Contributors: Joseph Colaccino
E. H. Trottier

Dated: June 17, 1994