



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

ENCLOSURE

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
OF PUMP RELIEF REQUEST PR-9
NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT NUCLEAR STATION UNIT NO. 1
DOCKET NO. 50-220

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 specific written relief has been requested by the licensee and granted by the Commission pursuant to Subsection (f)(6)(i) of 10 CFR 50.55a or an alternative is authorized by the Commission pursuant to Subsections (a)(3)(i) or (a)(3)(ii) of 10 CFR 50.55a. In requesting relief or proposing an alternative, the licensee must demonstrate that: (1) conformance with certain requirements of the applicable Code edition and addenda is impractical for its facility; or (2) the proposed alternative(s) provides an acceptable level of quality and safety; or (3) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Section 50.55a(f)(4)(iv) provides that inservice tests of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed, and subject to Commission approval.

NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provided alternatives to the Code requirements determined to be acceptable to the staff and authorized the use of alternatives in Positions 1, 2, 6, 7, 9, and 10 provided that licensees follow the guidance delineated in the applicable position. When an alternative is proposed which is in accordance with GL 89-04 guidance and is documented in the IST Program, no further evaluation is required; however, implementation of the alternative is subject to NRC inspection.

Regulation 50.55a authorizes the Commission to grant relief from ASME Code requirements or to approve proposed alternatives upon making the necessary findings. The NRC staff's findings with respect to granting or not granting the relief requested or authorizing the proposed alternative as part of the licensee's IST program are contained in this Safety Evaluation.

By letter dated October 15, 1992, Niagara Mohawk Power Corporation (NMPC) submitted IST Program Pump Relief Request PR-09 for Nine Mile Point Unit No. 1. PR-09 requested relief from the quarterly test requirements of the

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ASME Code, Section XI, Table IWP-3100-1 for the Core Spray System 11 pumps (i.e., Core Spray pumps 81-23 and 81-24 and Core Spray Topping Pumps 81-49 and 81-50). The Nine Mile Point Unit 1 IST Program for the Second Ten-Year Interval is based on the requirements of Section XI of the ASME Code, 1983 Edition through the Summer 1983 Addenda.

2.0 LICENSEE'S BASIS FOR RELIEF

NMPC has stated that Core Spray System 11 test valve 40-06 was found to be damaged following the last surveillance test. Based on an engineering evaluation, the licensee determined that this motor operated valve was still capable of performing its containment isolation function; however, it was considered out of service regarding its ability to open/reclose. NMPC also determined that a plant shutdown would be required to repair valve 40-06 and restore its ability to open/reclose.

Test valve 40-06 must be opened to provide a flow path to the torus during the normal quarterly testing of Core Spray System 11 pumps. In order to establish an alternate test flow path, such as through the core spray minimum flow line, an IST pump test would first have to be performed at the existing test conditions (IWP-3112). This is not possible, as previously discussed. The most recent testing of these pumps was completed on September 17, 1992. Accordingly, the next quarterly test is required to be performed by January 10, 1993 (extended from December 18, 1992, by applying the 25 percent criterion of Technical Specification 4.0.1). Based on previous test results, there is a high degree of confidence that an ASME Section XI test performed on the scheduled test date of January 10, 1993, would verify pump operability. The licensee has also stated that these pumps are not normally operated except during surveillance testing.

The next refueling outage is currently scheduled to begin on January 2, 1993. However, NMPC is proposing to delay the start of the outage until February 19, 1993, based on New York Power Pool projections of operating reserve during the peak winter months of January and February. If the outage is delayed until February 19, 1992, as proposed, NMPC has proposed to change the test frequency for the Core Spray System 11 pumps from quarterly to Cold Shutdown for the period January 10, 1993, to February 20, 1993. This relief would enable continued plant operation without incurring the risk of potential transients associated with a plant shutdown.

3.0 ALTERNATIVE TESTING

The licensee has stated that the testing of Core Spray System 11 pumps will be performed and the inservice test parameters measured in accordance with IWP-3100-1 during the next Cold Shutdown or scheduled refueling outage, whichever occurs first. NMPC requested relief from January 10, 1993, until February 20, 1993. The normal quarterly test frequency will be resumed following this timeframe.



4.0 EVALUATION

The ASME Code requires that on a quarterly basis the licensee measure or observe and record the test parameters shown in Table IWP-3100-1 for the Core Spray System 11 pumps. System 11 is one of two independent trains of the Core Spray System and includes, in part, Core Spray Pumps 81-23 and 81-24 and Core Spray Topping Pumps 81-49 and 81-50. The licensee has proposed as an alternative to measure the required parameters during the next Cold Shutdown or scheduled refueling outage, whichever occurs first. This one-time extension, if approved, could delay completion of the surveillance testing from January 10, 1993, until February 20, 1993.

Requiring the licensee to establish an additional test flow path, such as through the core spray minimum flow line, would not provide useful data that could be compared to previously recorded data, would require development of a special test procedure, would put the plant in an abnormal configuration, and could damage the pump(s) without obtaining any appreciable additional confidence that the system would be capable of performing its safety function.

Imposition of the Code requirements would be a burden (or hardship) to the licensee because it would result in a plant shutdown which would cause unnecessary challenges to safety systems, stresses on components, additional cycling of equipment, and may reduce the life expectancy of plant systems and components.

Based on the fact that NMPC's engineering evaluation concluded that test valve 40-06 is still capable of performing its containment isolation function and the long history of successful surveillance tests that verified that these pumps remained operable, the NRC staff has confidence that the core spray system will be capable of performing its safety function in the unlikely event that a loss-of-coolant accident occurs during the period January 10, 1993, until February 20, 1993.

Requiring strict compliance with the Code would, in this instance, result in hardship without a compensating increase in safety.



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5.0 CONCLUSION

The proposed alternative to the Code Requirements is authorized pursuant to 10 CFR 50.55(a)(3)(ii) based on the determination that compliance with the specified requirements results in a hardship or unusual difficulty without a compensating increase in the level of quality and safety. During the period January 10, 1993, until February 20, 1993, the quarterly IST of Core Spray Pumps 81-23 and 81-24 and Core Spray Topping Pumps 81-49 and 81-50 may be extended until the next Cold Shutdown or the next scheduled refueling outage, whichever occurs first.

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Date: December 17, 1992

