NMC
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Point Beach Nuclear Plant
Operated by Nuclear Management Company, LLC

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10 CFR 50.55a

U.S. Nuclear Regulatory Commission
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Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
License Nos. DPR-24 and DPR-27

Relief Requests from the Provisions of ASME Section XI, IWA-5244, "Buried Components," RR-1-26 and RR-2-34

In accordance with 10 CFR 50.55a(g)(5)(iii), Nuclear Management Company, LLC (NMC), licensee for Point Beach Nuclear Plant (PBNP), hereby requests relief from the requirements of 1986 Section XI, IWA-5244, "Buried Components," for PBNP Units 1 and 2, for the third inservice interval, which ended on June 30, 2002. The basis for the request is that compliance with the specified requirements was impractical. Performing the specified examinations would have required excavation of buried piping, between the circulating water pump house and the turbine building, without a compensating increase in the level of quality and safety.

This issue was identified during an NRC inspection of the PBNP service water (SW) system. A review of previous PBNP pressures tests indicated that prior Inservice Inspection (ISI) intervals had not met Code requirements for performing pressure testing on buried portions of the main SW headers as required by IWA-5244. NMC recognizes that this request should have been submitted within 12 months of the end of the effective interval and has addressed this issue via the PBNP corrective action process.

This letter contains no new commitments and no revisions to existing commitments.

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ENCLOSURE 1
RELIEF REQUESTS RR-1-26 AND RR-2-34
REQUEST FOR RELIEF FROM EXAMINATION OF
BURIED SERVICE WATER PIPING

Pursuant to 10 CFR 50.55a(g)(5)(iii), Nuclear Management Company, LLC (NMC), requests relief from the requirements of 1986 Section XI, IWA-5244, "Buried Components." The basis for the request is that compliance with the specified requirements is impractical. Performing the specified examinations would require excavation of buried piping, between the circulating water pump house and the turbine building, without a compensating increase in the level of quality and safety.

ASME Code Components Affected

PBNP, Units 1 and 2

Class 3 Service Water (SW) piping running from the intake structure to the turbine building. Approximately 90 feet of piping for each unit is buried and not accessible for pressure testing.

Applicable Code Edition and Addenda

ASME Section XI, 1986 Edition, no Addenda

Applicable Code Requirement

IWA-5211 Test Description - The pressure retaining components within each system boundary shall be subject to system pressure tests under which conditions visual examination VT-2 is performed in accordance with IWA-5240 to detect leakages. The required system pressure tests and examinations, as referenced in Table IWA-5210-1, may be conducted in conjunction with one or more of the following system tests or operations: ...
(c) a system inservice test conducted to perform visual examination VT-2 while the system is in service under operating pressure;

IWA-5223 - System Inservice Test Boundary - The boundary subject to test pressurization during a system inservice test [IWA-5211(c)] shall extend to those pressure-retaining components under operating pressures during normal system service.

Examination Category D-B, Item No. D2.10, Pressure retaining components, extent of examination is the pressure-retaining boundary.

IWA-5244 was determined to not have a method for testing redundant, isolable buried piping segment. The buried piping in the Service Water system is redundant (ring header provides this ability) and is isolable against a header piping break.

Reason for Request

The buried piping consists of about 90 feet of 30-inch diameter piping located between the intake structure and the turbine building. There is no access to this buried piping other than excavation. No annulus was provided during original construction as a means for testing this buried section.

One possible alternative is to isolate the buried section of the system and perform a test that determines the rate of pressure loss. This test method is a stated method in ASME Section XI, 1998 Edition, 2000 Addenda, IWA-5244(b)(1). This test would require entry into a dual unit Technical Specification Action Condition. The current isolation valves available to isolate this buried portion of piping are butterfly valves. These valves are designed to isolate a failed ring header such that the remaining portion of the ring header would still provide the required system flow; however, the valves are not expected to provide an adequate pressure test boundary, which is necessary for accurate pressure test results. System modification would be required to perform this type of test, as it would be necessary to replace the valves with those of better leakage characteristics or provide blank flanges that could be installed temporarily to conduct this test.

The 1986 edition also states that as an alternative, a test to determine the change in flow between the ends of the buried piping is allowed. The SW system is not instrumented to make this determination. To use an ultrasonic flow meter would require a length of straight pipe 15 times its diameter. As-built drawings of the system show a 12 foot 3 inch straight length of piping with a 24 inch by 30 inch reducer. The ultrasonic gauge would require a 30 foot length of straight piping without turbulence-inducing components to work correctly. Plant experience has shown that 15 pipe diameters of straight length piping is the minimum length required in order to get an accurate rate of flow.

The SW system for both units is configured with a ring header such that both sides of the system are supplying both units. PBNP Technical Specification (TS) 3.7.8 requires, "Service Water ring header continuous flow path not interrupted." Removing one section of the ring header from service reduces the redundancy of the system. If the SW ring header continuous flowpath is interrupted, the ability of the system to provide required cooling water flow to required equipment must be verified within 1 hour per PBNP TS 3.7.8. Isolating a section of the SW ring header also requires entry into a 7-day TS Action Condition to restore the flow path.

The possibility of erosion from Microbiologically Influenced Corrosion (MIC) is low in this section of piping. This is due to the continuous high flow rate of water through the piping, which does not support significant microbiological attack.

Proposed Alternative and Basis for Use

NMC proposes to use Inservice Testing procedures to verify adequate flow through the system. The Inservice Testing procedures are for quarterly testing of the SW pumps.

This proposed alternative will confirm unimpaired flow as stated in ASME Section XI, 1998 Edition, 2000 Addenda, as currently approved by 10 CFR50.55a(b)(2). Paragraph IWA-5244, "Buried Components," states, "(2) The system pressure test for nonisolable buried components shall consist of a test to confirm that flow during operation is not impaired."

The buried portion of pipe is isolable to protect against a header break but not sufficiently isolable for a pressure test. Application of IWA-5244(2) will provide an adequate level of quality and safety. The use of the inservice pump test provides a means to ensure flow during operation is not impaired. The pump acceptance criteria also ensure the required safety flow is maintained for any buried piping leakage, other than system loss of flow and pump degradation. Significant through-wall leakage of a buried pipe would result in a failed inservice pump test for three of six service water pumps providing flow to this portion of buried pipe. This failure would result in a 72 hour technical specification action condition and lead to a plant shutdown to identify and correct the condition.

Duration of Proposed Alternative

The duration of the proposed alternative is for the third inservice interval, which ended on June 30, 2002.

References

ASME Section XI, 1986 Edition

ASME Section XI, 1998 Edition with Addenda through 2000

EPRI TM-1001, Microbiologically Influenced Corrosion

PBNP Technical Specification 3.7.8, Service Water (SW) System