

May 31, 2000

Mr. Michael B. Sellman
Senior Vice President and
Chief Nuclear Officer
Wisconsin Electric Power Company
231 West Michigan Street
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SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - SAFETY EVALUATION
REGARDING RELIEF REQUEST ASSOCIATED WITH THE THIRD 10-YEAR
INSERVICE INSPECTION (ISI) INTERVAL (TAC NOS. MA7198 AND MA7199)

Dear Mr. Sellman:

By letter dated November 11, 1999, Wisconsin Electric Power Company (the licensee) submitted Request for Relief PTP-3-09 seeking relief from the requirements of the American Society for Mechanical Engineers, Boiler and Pressure Vessel Code (Code), Section XI, for Point Beach Nuclear Plant (PBNP), Units 1 and 2, third 10-year ISI interval.

The staff has completed its review of the information provided by the licensee and concludes that for Request for Relief PTP-3-09, the licensee's proposed alternative to use Plant Technical Specification surveillance testing in lieu of Code-required pressure tests will provide an acceptable level of quality and safety. Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the staff authorizes the licensee's alternative for the third interval at PBNP, Units 1 and 2. The enclosure documents our evaluation.

Sincerely,

/RA/

Claudia M. Craig, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure: Safety Evaluation

cc w/encl: See next page

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Point Beach Nuclear Plant, Units 1 and 2

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November 1999

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

THIRD 10-YEAR INTERVAL INSERVICE INSPECTION

REQUEST FOR RELIEF NO. PTP-3-09

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

Inservice inspection (ISI) of the American Society of Mechanical Engineers Code (ASME Code) Class 1, 2, and 3 components is performed in accordance with Section XI of the ASME Boiler and Pressure Vessel (B&PV) Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The regulation at 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code, which were incorporated by reference in 10 CFR 50.55a(b) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The Code of record for the Point Beach, Units 1 and 2, third 10-year ISI interval is the 1986 edition of the ASME B&PV Code.

2.0 EVALUATION

The staff, with technical assistance from Idaho National Engineering and Environmental Laboratory (INEEL), has reviewed the information concerning the ISI program alternative contained in Request for Relief No. PTP-3-09 submitted for the third 10-year interval for Point Beach, Units 1 and 2, in a Wisconsin Electric Power Company (the licensee) letter dated November 11, 1999. The individual relief requests contained within Request for Relief No. PTP-3-09 are summarized in Attachment 1.

ENCLOSURE

The staff adopts the evaluations and recommendations stated in INEEL's Technical Letter Report (Attachment 2).

3.0 CONCLUSION

The staff concludes that the alternative contained in Request for Relief No. PTP-3-09 will provide an acceptable level of quality and safety, pursuant to 10 CFR 50.55a (a)(3)(i). Use of the alternative is accordingly authorized by law and will not endanger life or property, or the common defense and security, and is otherwise in the public interest.

Attachments: 1. Summary of Relief Request No. PTP-3-09
2. Technical Letter Report

Principal Contributor: T. McLellan

Date: May 31, 2000

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
Third 10-Year ISI Interval

SUMMARY OF RELIEF REQUESTS

| Relief Request Number | INEEL TLR Sec. | System or Component | Exam Category | Item No. | Volume or Area to be Examined | Required Method | Licensee Proposed Alternative | Relief Request Disposition |
|------------------------------|-----------------------|---|----------------------|-----------------|--------------------------------------|---|--|-------------------------------------|
| PTP-3-09 | 2.1 | Standby Emergency Diesel Generator Subsystems | D-B | D2.10 | Pressure retaining components | VT-2 visual examination during system pressure testing | Surveillance testing plant technical specifications | Authorized 10 CFR50.55a(a)(3)(i) |

TECHNICAL LETTER REPORT
ON THE THIRD 10-YEAR INTERVAL INSERVICE INSPECTION
REQUEST FOR RELIEF PTP-3-09
FOR
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NUMBERS: 50-266 AND 50-301

A. INTRODUCTION

By letter dated November 11, 1999, the licensee, Wisconsin Electric Power Company, submitted a proposed alternative to the requirements of the ASME Code, Section XI, for the Point Beach Nuclear Plant (PBNP), Units 1 and 2, third 10-year inservice inspection (ISI) interval. The Idaho National Engineering and Environmental Laboratory (INEEL) staff's evaluation of the subject proposed alternative is in the following section.

B. EVALUATION

The information provided by Wisconsin Electric Power Company in support of the proposed alternative to Code requirements has been evaluated and the basis for disposition is documented below. The Code of record for the PBNP, third 10-year ISI interval, is the 1986 Edition of Section XI of the ASME Boiler and Pressure Vessel Code. The third 10-year interval ends in December 2000 for Unit 1 and in November 2002 for Unit 2.

2.1 Request for Relief PTP-3-09, Examination Category D-B, Item D2.10, Pressure Testing of Standby Emergency Diesel Generator Subsystems

Code Requirement: Examination Category D-B, Item D2.10 requires VT-2 visual examination during system pressure testing of Class 3 pressure-retaining components.

Licensee's Proposed Alternative: In accordance with 10 CFR 50.55a(a)(3)(i), the licensee proposed to perform Plant Technical Specification surveillance testing as an alternative to Code pressure testing for Standby Emergency Diesel Generator subsystems.

The licensee stated:

“As an alternate to performing ASME XI required pressure testing on subsystems supporting the standby Emergency Diesel Generators (EDG), PBNP proposes utilizing Plant Technical Specifications surveillance testing as an alternative to that required by the Code.”

Licensee's Basis for Proposed Alternative (as stated):

“Pursuant to 10 CFR 50.55a(a)(3)(i), relief is being requested from the Code required system pressure test for diesel generator Class 3 subsystems on the basis that the proposed alternate testing would provide an acceptable level of quality and safety.”

“The primary intent of Plant Technical Specifications (TS) surveillance testing is slightly different from Code required examinations. TS 15.4.6 is intended to demonstrate component operability, whereas TS 15.4.2.B.1 (ISI) is intended to demonstrate pressure boundary integrity. There are no VT-3 visual examinations imposed on EDG subsystems due to pressure/temperature or size exemptions as allowed by IWD-1220.2. Therefore, verification of pressure boundary structural integrity on EDG subsystems is not included in the PBNP ISI Long Term Plan. Successful EDG operability testing requires the associated subsystems to maintain pressure boundary integrity and therefore deemed to provide an equivalent level of quality and safety to that of ASME Section XI inspections. Those auxiliary support subsystems addressed within the scope of this request for relief include the starting air system, fuel oil system and glycol cooling system (G03 and G04 only for glycol cooling).

“The repeatability of auxiliary subsystem instrumentation (pressure, level and temperature) recorded during surveillance testing provides supporting data for the ‘indirect verification of component integrity’. Furthermore, operations personnel are specifically trained in the testing of the standby EDGs and are aware of the necessity to maintain the pressure boundary of the auxiliary subsystems and also of the necessity to maintain unobstructed flow characteristics for components discharging to a tank vented to atmosphere as do the diesel fuel oil transfer pumps. Although not a specific signoff step in the surveillance procedure, verification of component pressure boundary integrity is administratively required of the operations personnel performing standby EDG operability testing. If evidence of leakage is identified during the test, a condition Report and/or work order is initiated with corrective actions or repairs implemented and follow-up confirmatory testing is performed.”

“The following paragraphs provide specific procedural actions which support the use of alternative operability testing in lieu of ASME Section XI system pressure testing and VT-2 visual examinations.

Starting Air Auxiliary Subsystem

“PBNP Surveillance Test Procedures TS-81, -82, -83 and -84, are performed monthly to demonstrate EDG operability. As part of these procedures, the pressures of both right bank and left bank air receivers are recorded prior to and subsequent to starting the engine with the drop in pressure verified to occur at the air start motor outlet ports. The satisfactory completion of this test demonstrates the skid-mounted air start components are properly performing their function and also provides positive indication that the pressure boundary integrity of the starting air subsystem is intact. In addition to the monthly testing, Inservice Test Procedure IT-100 performs quarterly reverse exercising of the right/left bank air start receivers’ inlet check valves. During the performance of this procedure, each air compressor is isolated with a vent path provided upstream of the air receivers’ supply check valves. Receiver pressure is observed for 15 minutes with stringent leakage criteria applied. If a through wall or otherwise excessive leak were to

occur in the pressure boundary, seat leakage acceptance criteria for the check valves would be exceeded resulting in the determination of the source of the leak and repair/replacement. This data also provides a positive indication that pressure boundary integrity is being maintained for the starting air subsystem. Based on the monthly and quarterly frequencies and the data collected during these alternative tests, PBNP considers that testing performed to satisfy the Technical Specification Surveillance Requirements provide an acceptable level of quality and safety as an alternative to ASME Section XI system pressure testing.

Fuel Oil Transfer Subsystem

“For the Fuel Oil Transfer subsystem, an acceptable ASME Section XI pressure test would consist of a VT-2 visual examination on the outlet piping from the day tank to the engine when the day tank is filled to design capacity as well as the transfer pump’s ability to provide adequate makeup flow to the day tank during system operation due to the day tank being vented to the atmosphere. During the monthly performance of TS-81, -82, -83 and -84 fuel oil inventory in the day tank is drained down to the low level setpoint for pump actuation. The pump is verified to auto start and allowed to replenish day tank inventory to the high level set point with verification that the pump auto stops. During this process procedural steps require recording of the percentage of tank level when the transfer pump auto starts as well as percentage of tank level upon cessation of pump operation. In addition, pump flow rate is recorded during replenishment of day tank inventory. Normal values for the recorded data are provided in the procedures as well as limits for the recorded values which provide a means to access the data recorded. This data provides a positive indication that pressure boundary integrity is being maintained. Based on the monthly frequency and the data collected during these alternative tests, PBNP considers the testing performed to satisfy the Technical Specification Surveillance Requirements and provide an acceptable level of quality and safety as an alternative to ASME Section XI system pressure testing.

Glycol Cooling Subsystem (G03 and G04 Only)

“Standby Emergency Diesel Generators G03 and G04 are provided with a glycol cooling subsystem consisting of a coolant to air type heat exchanger. During the monthly performance of TS-83 and TS-84 coolant tank level as well as multiple point temperature indication is recorded prior to starting the engine, after 30 minutes of loading run time and prior to shutdown or hourly for extended runs. Normal values for all acquired data are provided in the procedure logsheet as well as limits for the data recorded. Again, this data provides a positive indication that pressure boundary integrity is being maintained. Based on the monthly frequency and data collected during these alternative tests, PBNP considers that testing performed to satisfy the Technical Specifications Surveillance Requirements and provide an acceptable level of quality and safety as an alternative to ASME Section XI system pressure testing.

“In addition, Per Surveillance Requirement 15.4.6.A.4, each Standby Emergency Diesel Generator is subject to an inspection in accordance with procedures

prepared per the manufacturer's recommendation. These inspections will provide added assurance that the components within the Starting Air, Fuel Oil Transfer and Glycol Cooling subsystems demonstrate pressure boundary integrity and the ability to provide adequate flow for satisfactory Standby Emergency Diesel Generator operation.

"Based on the information provided, PBNP requests relief from the ASME Section XI requirement to perform system pressure testing on the ISI Class 3 Standby Emergency Diesel Generator subsystems listed above on the bases that Technical Specification Surveillance Requirements of 15.4.6 provide an acceptable level of quality and safety and provide an acceptable alternative to ASME Section XI system pressure testing."

Evaluation: The Code requires that a VT-2 visual examination for leakage be performed during system pressure testing of Class 3 piping and valves once each inspection period and during a full system hydrostatic test once each inspection interval. The Code-required pressure testing and VT-2 visual examination are intended to demonstrate the leakage integrity of the pressure boundary. It is noted that the licensee is implementing Code Case N-498-1, *Alternative Rules for 10-Year System Hydrostatic Testing for Class 1, 2, and 3 Systems*, which allows the 10-year hydrostatic test to be performed at normal operating pressure.

The licensee proposed to use existing surveillance tests that are required by current plant technical specifications as an alternative to the Code-required pressure testing. The required surveillance testing is routinely performed on various portions of the subject system and is intended to demonstrate component operability. As such, the tests provide an indirect verification of the leakage integrity of the pressure boundary, in lieu of a direct visual examination performed under normal operating pressure.

The subject subsystems receive these tests every thirty days, which is a much more frequent testing schedule than the system pressure testing required by the Code (approximately every 40 and 120 months). During each surveillance test, pressure drop, fluid level, flow rates and/or temperature data is monitored. Each of these indicators has associated allowable values which, if exceeded, would alert an operator of potential problems, including pressure boundary leakage. The INEEL staff expects that system leakage would be identified by the parameters monitored before a significant reduction in structural integrity of the components could occur. If evidence of leakage is identified as a result of surveillance testing, corrective actions or repairs would be implemented and a follow-up confirmatory test performed.

The INEEL staff concludes that the proposed surveillance testing, although not a direct examination and less sensitive to small leakage than the Code-required pressure testing, is performed at more frequent intervals and the parameters monitored should ensure that the leakage integrity of the pressure boundary is maintained. Therefore, the INEEL staff concludes that the proposed alternative provides an acceptable level of quality and safety for components in the Standby Emergency Diesel Generator Subsystems.

C. CONCLUSION

The INEEL staff has reviewed the licensee's submittal and concludes that for Request for Relief PTP-3-09, the licensee's proposed alternative to use Plant Technical Specification surveillance testing in lieu of Code-required pressure tests will provide an acceptable level of quality and safety. Therefore, it is recommended that the proposed alternative be authorized for the third 10-year interval pursuant to 10 CFR 50.55a(a)(3)(i).