



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
OF THE SECOND TEN-YEAR INTERVAL INSERVICE INSPECTION
REQUESTS FOR RELIEF
FOR
WISCONSIN ELECTRIC POWER COMPANY
POINT BEACH NUCLEAR PLANT, UNIT 1
DOCKET NO: 50-266

1.0 INTRODUCTION

The Technical Specifications for Point Beach Nuclear Plant, Unit 1, state that the inservice inspection and testing of the American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel 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). Title 10 CFR 50.55a(a)(3), states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (1) the proposed alternatives would provide an acceptable level of quality and safety, or (2) compliance with the specified requirements would result in hardship or unusual difficulties 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 preservice examination requirements, set forth in the 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 second 10-year interval comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) on the date 12 months prior to the start of the 120-month inspection interval, subject to the limitations and modifications listed therein. The applicable edition of Section XI of the ASME Code for the Point Beach Nuclear Plant, Unit 1, second 10-year inservice inspection (ISI) interval is the 1977 Edition, through Summer 1979 Addenda. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein.

Pursuant to 10 CFR 50.55a(g)(5), if the licensee determines that conformance with an examination requirement of Section XI of the ASME Code is not practical for its facility, information shall be submitted to the Commission in support of that determination and a request made for relief from the ASME Code requirement. After evaluation of the determination, pursuant to 10 CFR 50.55a(g)(6)(i), the Commission may grant relief and may impose

alternative requirements that are determined to be authorized by law, will not endanger life, property, or the common defense and security, and are otherwise in the public interest, giving due consideration to the burden upon the licensee that could result if the requirements were imposed.

In a letter dated December 19, 1991, the licensee, Wisconsin Electric Power Company, submitted 11 relief requests for the Point Beach Nuclear Plant (PBNP), Unit 1, second 10-year ISI interval. The staff, with technical assistance from its contractor, the Idaho National Engineering Laboratory (INEL), has evaluated each request for relief in the following section.

2.0 EVALUATION

The information provided by the licensee in support of the requests for relief from impractical requirements has been evaluated and the bases for granting relief from those requirements are documented below.

A. Request for Relief No. RR-1-14, Examination Category C-G, Item C6.20, Containment Sump Valves

Code Requirement: Table IWC-2500-1, Examination Category C-G, Item C6.20, requires a 100% surface examination of valve body welds as defined by Figure IWC-2520-8. The examination may be performed from either inside or outside the component. In the case of multiple valves of similar design, size, function, and service in a system, examination of only one valve in each group is required.

Licensee's Code Relief Request: Relief is requested from performing the surface examination, to the extent required by the Code, for valve body welds SI-650A and SI-850B.

Licensee's Basis for Requesting Relief: The subject valve body consists of two 10-inch diameter straight sections of seam welded Schedule 40 Type 304 stainless steel pipe and one elbow welded together circumferentially. The lower portion of the valve includes a longitudinal seam weld with a circumferential weld at each end. These welds can and will receive the Code-required surface examination from the exterior surface. The upper portion of the valve has a longitudinal seam weld (approximately 11 feet in length), that, except for approximately 4 inches, is imbedded in concrete and inaccessible from the exterior. Examination from the interior surface is not meaningful due to the length and small diameter (10 inches) of the valve. The valve would require disassembly and removal of the stem and plug in order to complete the examination. Disassembly for the sole purpose of examination would result in unnecessary exposure to radiation and contamination and is contrary to ALARA guidelines. The examination would do little to add to the assurance of the structural integrity of these valves, since they are subjected to system pressure tests on a regular basis as required by the Code.

Licensee's Proposed Alternative Examination: None. The Code-required surface examinations will be performed to the maximum extent practical.

Staff Evaluation: As shown in the drawings attached to the licensee's relief request, all but 4 inches of the subject valve body welds are imbedded in concrete and inaccessible from the outside surface.

Examination of the interior surface would require disassembly of the valve, but would still be limited due to the small diameter of the valve body. Therefore, the surface examination is impractical to perform to the extent required by the Code. In order to examine the welds as required by the Code, the valve would have to be redesigned to provide access for examination. Imposition of this requirement on Wisconsin Electric Power Company would cause a burden that would not be compensated by an increase in safety above that provided by the limited examination. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted as requested.

B. Request for Relief No. HP-RR-1-01, Examination Category C-H, Item C7.21, Hydrostatic Test of Class 2 Safety Injection Piping

Code Requirement: Table IWC-2500-1, Examination Category C-H, Item C7.21, requires a VT-2 visual examination during the system hydrostatic test (IWC-5222) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic tests on portions of Class 2 piping located between the following valves:

ISI-841A, ISI-842A and ISI-839A
ISI-841B, ISI-842B and ISI-839B
ISI-878A and ISI-845D
ISI-878B and ISI-845B
ISI-878C and ISI-845C

Licensee's Basis for Requesting Relief: The licensee states that the subject Class 2 piping cannot be isolated from the Class 1 reactor coolant system (RCS) due to check valve configurations. The adjacent RCS system hydrostatic test is performed at 2350 psig. The subject Class 2 piping has a design pressure of 2580 psig, and requires a test pressure of 3225 psig. Therefore, testing these portions in accordance with the Code could result in overpressurization of the RCS, and would also inject boron into the RCS.

Licensee's Proposed Alternative Examination: The subject piping will receive a VT-2 visual examination at the test pressure (2190 psig) used for the piping that is upstream of the subject portions. Testing will be conducted coincident with the Class 1 RCS hydrostatic test to prevent the accidental injection of boron into the RCS.

Staff Evaluation: The Code-required test pressure for the subject Class 2 piping is 3225 psig. However, these lines cannot be isolated from the RCS due to check valve configuration. Since performance of the pressure test at Class 2 pressure could overpressurize the RCS, the Code requirement is impractical. In order to perform the Code-required hydrostatic test, the affected systems would require design modifications to accommodate the test.

Based on the information presented in the relief request, it is not apparent why the subject piping cannot receive a hydrostatic test at the Class 1 test pressure of 2350 psig, therefore, the licensee's proposed alternative is unacceptable. Under similar circumstances, other plants are performing the pressure test at the Class 1 pressure. The subject Class 2 piping should be tested at the Class 1 test pressure of 2350 psig, in lieu of the licensee's proposed alternative.

Pursuant to 10 CFR 50.55a(g)(6)(i), it is concluded that the Code requirement is impractical, therefore relief may be granted provided that the subject pipe receives a hydrostatic test at the Class 1 hydrostatic test pressure. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by performing the hydrostatic test at the Class 1 pressure.

C. Request for Relief No. HP-RR-1-02, Examination Category C-H, Item C7.21, Hydrostatic Test of Class 2 Piping

Code Requirement: Table IWC-2500-1, Examination Category C-H, Item C7.21, requires a VT-2 visual examination during the system hydrostatic test (IWC-5222) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic test on portions of Class 2 piping located between the following valves:

ISI-845A and ISI-878D
ISI-845E and ISI-878E
ISI-845F and ISI-878F

Licensee's Basis for Requesting Relief: The licensee states that the subject Class 2 piping cannot be isolated from the Class 1 reactor coolant system (RCS) due to check valve configurations. The adjacent RCS system hydrostatic test is performed at 2350 psig. The subject Class 2 piping is class 2501R, which has a design pressure of 2580 psig and requires a test pressure of 3225 psig. To test these portions in accordance with the Code could result in overpressurization of the RCS, and would also inject boron into the RCS.

Licensee's Proposed Alternative Examination: The subject hydrostatic pressure test will be performed coincident with the RCS hydrostatic pressure test, based on Class 1 RCS hydrostatic test requirements. The test pressure will be 2350 psig.

Staff Evaluation: The subject Class 2 lines cannot be isolated from the RCS due to check valve configuration and performing the test at the Class 2 pressure could overpressurize the RCS. Therefore, the Code requirement is impractical. In order to perform the Code-required hydrostatic test, the affected systems would require design modifications to accommodate the test. The licensee's proposed alternative to perform the required VT-2 coincident with the RCS hydrostatic test, at the Class 1 pressure of 2350 psig, will provide reasonable assurance of the structural integrity of the subject piping.

Pursuant to 10 CFR 50.55a(g)(6)(i), it is concluded that the Code requirement is impractical, therefore relief is granted as requested. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by performing the test at the Class 1 hydrostatic test pressure in lieu of the required Class 2 test pressure.

D. Request for Relief No. HP-RR-1-03, Examination Category D-B, Item D2.10, Hydrostatic Test of Auxiliary Feedwater Pump Discharge Piping

Code Requirement: Table IWD-2500-1, Examination Category D-B, Item D2.10, requires a VT-2 visual examination during the system hydrostatic test (IWD-5223) at a minimum of 1.10 times the system pressure (P_{SV}) for systems with design temperatures of 200°F or less, and 1.25 times P_{SV} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic pressure test for discharge piping from Auxiliary Feedwater Pump 1P-29 to Valves AF-108 and AF-4002, and from Pump 1P-38A to Valves AF-109 and AF-4007.

Licensee's Basis for Requesting Relief: The licensee states that the subject Class 3 piping cannot be isolated from the suction side of the auxiliary feedwater pumps. Physical limitations of centrifugal pumps require the discharge piping to be tested with the suction side of the pumps. The design pressure for the suction side of these pumps is 50 psig, resulting in a required test pressure of 55 psig. However, the discharge piping has a design pressure of 1440 psig, which would require a test pressure of 1584 psig. The maximum test pressure for the discharge piping is achieved by operation of the pumps (1325 psig for Pump 1P-29 and 1420 psig for Pump 1P-38A).

Licensee's Proposed Alternative Examination: None. A VT-2 visual examination will be performed during the system functional test in lieu of a system hydrostatic test.

Staff Evaluation: The subject piping requires a hydrostatic test per IWD-5223. The licensee's proposed alternative is to perform the VT-2 visual examination during the system functional test at operating pressure, in lieu of the hydrostatic test.

The required test pressure for the discharge piping is 1584 psig. However, the suction piping, which has a design pressure of only 50 psig, cannot be isolated from the pumps or discharge piping. The test pressure for the discharge piping far exceeds that of the suction side piping, therefore, the hydrostatic test is impractical to perform at the Code-required pressure. In order to perform the hydrostatic test as required by the Code, the subject auxiliary pumps and piping would have to be redesigned and replaced.

Based on the above evaluation, and pursuant to 10 CFR 50.55a(g)(6)(i), it is concluded that relief may be granted as requested for the subject piping. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by performing the VT-2 visual examination during the system functional test.

E. Request for Relief No. HP-RR-1-04, Examination Category C-H, Item C7.21, Hydrostatic Test of Class 2 Containment Spray Piping

Code Requirement: Table IWC-2500-1, Examination Category C-H, Item C7.21, requires a VT-2 visual examination during the system hydrostatic test (IWC-5222) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic pressure test for discharge piping from Containment Spray Pumps 1P-14A and 1P-14B to Valves 1SI-862A, SI-859A, 1SI-862B, and SI-859B, and to Containment Spray Eductors 1Z-275A and 1Z-275B.

Licensee's Basis for Requesting Relief: The licensee states that the subject Class 2 piping cannot be isolated from the suction side of the containment spray pumps. Physical limitations of centrifugal pumps require the discharge piping to be tested with piping on the suction side of the pumps. The design pressure for the suction side of these pumps is 150 psig, resulting in a required test pressure of 188 psig. The discharge piping has a design pressure of 370 psig, which requires a test pressure of 463 psig. The maximum test pressure for the discharge piping is achieved by simultaneously operating the residual heat removal (RHR) pumps and the containment spray pumps in series to provide additional containment spray pump suction pressure at the spray pump discharge. This process, referred to as "piggy-back" mode, produces a discharge piping test pressure of 400 psig and is performed during the Inservice Test IT-540A, "Leakage Reduction and Preventive Maintenance Program of the Containment Spray System."

Licensee's Proposed Alternative Examination: A VT-2 visual examination of this piping will be conducted during the annual performance of IT-540A, in lieu of a system hydrostatic pressure test.

Staff Evaluation: The subject discharge piping requires a hydrostatic test per IWC-5222. The licensee's proposed alternative is to perform the VT-2 visual examination during the annual performance of the IT-540A inservice test of the containment spray system, in lieu of the Code-required hydrostatic test. To achieve the highest possible pressure during the alternative test, the RHR and containment spray pumps will be operated in series to produce a discharge piping test pressure of 400 psig.

The required test pressure for the discharge piping is 463 psig. However, the design pressure of the suction side of the pumps, which cannot be isolated from the discharge side, is only 150 psig. Therefore, the Code-required hydrostatic test pressure is impractical. In order to perform the Code-required examination, the subject components would require extensive design modifications. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by performing the VT-2 visual examination during the proposed alternative inservice test.

Based on the above, it is concluded that the Code-required hydrostatic test is impractical to perform on the subject containment spray piping. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted as requested.

F. Request for Relief No. HP-RR-1-05, Examination Category D-G, Item D2.10, Hydrostatic Test of Service Water Main Supply Header Piping

Code Requirement: Table IWD-2500-1, Examination Category D-B, Item D2.10, requires a VT-2 visual examination during the system hydrostatic test (IWD-5223) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic pressure test on the main supply header piping of the service water system.

Licensee's Basis for Requesting Relief: The service water system supplies cooling water to both units at Point Beach Nuclear Plant. Normal system operating pressure is 75 psig. The design pressure for this system is 100 psig, resulting in a required test pressure of 110 psig. PBNP Technical Specifications 15.3.3.D-1 and 15.3.3.D-2 prevent configuring the service water system to permit hydrostatic testing in accordance with the Code. Therefore, the portions of ISIClass 3 piping described above cannot be isolated for the purpose of

hydrostatic testing without placing the plant in a limiting condition for operation (LCO) as well as introducing the risk of a plant technical specification violation.

Licensee's Proposed Alternative Examination: A VT-2 visual examination will be performed during a "modified" system inservice test. During this test, all six pumps will be operated to attain the maximum allowable pressure without exceeding 100 psig. If 100 psig is exceeded, the relief valves in the system will lift. Relief valves will not be gagged for this test.

Staff Evaluation: The subject piping requires a hydrostatic test per IWD-5223. The licensee's proposed alternative is to perform the VI-2 visual examination during a modified system inservice test in lieu of the hydrostatic test. To achieve the highest possible pressure during the alternative test, all six service water pumps will be operated to attain the maximum allowable pressure of 100 psig.

The required test pressure for the main supply header piping is 110 psig. However, plant technical specifications prevent the subject piping from being configured to perform the Code-required hydrostatic test. The subject piping cannot be isolated for the purpose of hydrostatic testing without placing the plant in an undesirable condition and risking violation of plant technical specifications; therefore, the Code-required hydrostatic test is impractical to perform. In order to perform the hydrostatic test as required by the Code, the main supply header piping would require extensive design modifications. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by performing the pressure test at the reduced test pressure.

Based on the above, it is concluded that the Code-required hydrostatic test is impractical to perform at PBNP, Unit 1. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted as requested.

G. Request for Relief No. HP-RR-1-06, Examination Category C-H, Item C7.21, Hydrostatic Test of Class 2 Safety Injection Piping

Code Requirement: Table IWC-2500-1, Examination Category C-H, Item C7.21, requires a VT-2 visual examination during the system hydrostatic test (IWC-5222) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic pressure test on piping between the following valves:

ISI-856A and ISI-854A
ISI-856B and ISI-854B
ISI-870A and ISI-858A

ISI-870B and ISI-858B
ISI-894 and ISI-895

Licensee's Basis for Requesting Relief: The licensee states that the subject piping cannot be isolated from the Refueling Water Storage Tank (RWST) due to check valve configuration. These portions must be tested coincident with the RWST.

Licensee's Proposed Alternative Examination: The VT-2 visual examination of the subject portions will be performed at the static head pressure of the RWST when filled to design capacity.

Staff Evaluation: The licensee states that the subject piping cannot be isolated from the RWST due to check valve configuration; therefore, the Code-required hydrostatic test cannot be performed. Upon review of Drawing Numbers ISI-CBD-1050 and ISI-CBD-1060, it appears that the subject piping can be physically isolated from the tank, but because of the check valve configuration, isolation from the RWST would also isolate the piping from any means of pressurizing it. Therefore, the Code-required hydrostatic test is impractical to perform. In order to meet the Code requirement, design modifications to accommodate the hydrostatic test would be required. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by the limited examination. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted provided that the requirements for system hydrostatic test IWA-5213, "Test Condition Holding Time," are met prior to performing the VT-2 visual examination.

H. Request for Relief No. HP-RR-07, Examination Category C-H, Item C7.21, Hydrostatic Test of Class 2 Safety Injection Piping

Code Requirement: Table IWC-2500-1, Examination Category C-H, Item C7.21, requires a VT-2 visual examination during the system hydrostatic test (IWC-5222) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic pressure test for discharge piping between Safety Injection (SI) Pump 1P-15A, Valve ISI-889A and the mini-recirc orifice, and between SI Pump 1P-15B, Valve ISI-889B, and the mini-recirc orifice.

Licensee's Basis for Requesting Relief: The subject portions of Class 2 piping cannot be isolated from the suction side of the SI pumps. Physical limitations of centrifugal pumps require the discharge piping to be tested with piping on the suction side of the pumps. The design pressure for the suction side of these pumps is 150 psig, resulting in a required test pressure of 188 psig. However, the discharge piping has a

design pressure of 1745 psig, per MOD Request 172, which would require a test pressure of 2182 psig. The maximum test pressure is achieved by simultaneously operating the RHR pumps and the SI pumps in series to provide additional SI pump suction pressure at the SI pump discharge. This process, referred to as "piggy-backing" mode, produces a test pressure of 1700 psig and is performed during the Inservice test IT-520A, "Leakage Reduction and Preventative Maintenance Program of the SI System."

Licensee's Proposed Alternative Examination: A VT-2 visual examination will be performed during the annual performance of Inservice Test IT-520A, with the RHR pumps in "piggy-back" mode, in lieu of a system hydrostatic test.

Staff Evaluation: Item C7.21 requires a hydrostatic test of pressure retaining piping per IWC-5222. The required test pressure for the subject piping is 2182 psig. In the Code-required examination, the licensee proposes to perform the VT-2 visual examination coincident with the annual inservice test. During the inservice test, the test pressure attained in the discharge piping is 1700 psig. Because of physical limitations of centrifugal pumps, the suction side piping, which has a design pressure of 150 psig, cannot be isolated from the discharge side piping. Therefore, the Code-required hydrostatic test is impractical to perform on the subject SI discharge piping. In order to perform the Code-required hydrostatic test, the SI pumps and piping would require design modifications to accommodate the hydrostatic test. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by the alternate test pressure.

Based on the evaluation above, and pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted as requested.

1. Request for Relief No. HP-RR-1-08, Examination Category C-H, Item C7.21, Hydrostatic Test of Class 2 Safety Injection Piping

Code Requirement: Table IWC-2500-1, Examination Category C-H, Item C7.21, requires a VT-2 visual examination during the system hydrostatic test (IWC-5222) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic pressure test on the mini-recirc and test lines of Safety Injection (SI) Pump 1P-15A, and the mini-recirc and test lines of SI Pump 1P-15B.

Licensee's Basis for Requesting Relief: The licensee states that the subject portions of Class 2 piping contain components (1FI-929 and 1FI-933) that cannot be isolated. The design pressure for this piping is 1745 psig, resulting in a required test pressure of 2181 psig.

However, the maximum test pressure for this portion of the system is limited, based on the "maximum working pressure" of these components, to 1500 psig.

Licensee's Proposed Alternative Examination: A VT-2 visual examination will be performed at the "maximum working pressure" for the limiting components that are not isolable (1500 psig).

Staff Evaluation: Item C7.21 requires a hydrostatic test of pressure retaining piping per IWC-5222. The required test pressure for the subject piping is 2181 psig. The piping contains components (listed as 1FI-929 and 1FI-933, but not identified) that have a maximum working pressure of 1500 psig, and cannot be isolated from the piping. In lieu of the Code-required examination, the licensee proposes to perform the pressure test at the maximum working pressure (1500 psig) of the contained components. Since the piping cannot be isolated from components 1FI-929 and 1FI-933, and performance of the hydrostatic test would exceed the maximum working pressure of these components, the hydrostatic test is impractical to perform at the Code-required pressure. In order to meet the Code requirement, portions of the SI system would have to be redesigned and replaced. Imposition of this requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by the proposed alternative.

It is concluded that the hydrostatic test is impractical to perform at PBNP, Unit 1, at the pressure required by the Code, and that performance of the pressure test at the reduced pressure of 1500 psig will provide adequate assurance of the continued inservice integrity of the subject system. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted for the subject piping, provided that the requirements for system hydrostatic test IWC-5223, "Test Condition Holding Time," are met prior to performing the VT-2 visual examination.

J. Request for Relief No. HP-RR-1-09, Examination Category D-B, Item D2.10, Hydrostatic Test of Class 3 Emergency Diesel Generator Air Relay Valves

Code Requirement: Table IWD-2500-1, Examination Category D-B, Item D2.10, requires a VT-2 visual examination during the system hydrostatic test (IWD-5223) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from the pressure test requirements of IWC-5223(a) for Emergency Diesel Generator Air Relay Valves DA-3057A, DA-3057B, DA-3058A, and DA-3058B.

Licensee's Basis for Requesting Relief: The licensee states that information supplied by the valve manufacturer indicates that the air relay valves described above cannot be pressurized beyond their design pressure of 200 psig without damaging the valve. The diesel air start system is normally at 200 psig with relief valves set at 220 psig.

Licensee's Proposed Alternative Examination: None. A VT-2 visual examination will be performed during system functional testing as required by the Code. The test will be performed at the normal system pressure of 200 psig.

Staff Evaluation: Table IWA-2500-1, Examination Category D-B, requires a hydrostatic test at 1.1 times design pressure for pressure retaining components with design temperatures less than 200°F. IWD-5210(b) states that: "The hydrostatic test shall be conducted in accordance with IWA-5000, as applicable. The contained fluid in the system shall serve as the pressurizing medium." IWA-5211 states, in part, "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 operation: . . . (e) a system pneumatic test conducted in lieu of a hydrostatic pressure test for components within the scope of IWC and IWD." In summary, the appropriate pressure test for the subject air relay valves is a pneumatic test performed at $1.1 P_{sv}$.

The proposed alternative examination is to perform a VT-2 visual examination during the system functional test at the normal system pressure of 200 psig. The Licensee states that the subject valves cannot be pressurized above the design pressure, which is also 200 psig, without damaging the valve. Therefore, the Code-required test pressure is impractical for the subject valves. In order to perform the examination at the pressure required by the Code, the air relay valves would have to be redesigned and replaced. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by performing the pneumatic test at the system design pressure of 200 psig.

Pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted provided that an appropriate leak detection method is used (e.g., bubble test, pressure decay) during the pneumatic pressure test.

K. Request for Relief No. HP-RR-1-10, Examination Category D-B, Item D2.10, Hydrostatic Test of Class 3 Component Cooling Water System Piping

Code Requirement: Table IWD-2500-1, Examination Category D-B, Item D2.10, requires a VT-2 visual examination during the system hydrostatic test (IWD-5223) at a minimum of 1.10 times the system pressure (P_{sv}) for systems with design temperatures of 200°F or less, and 1.25 times P_{sv} for systems with design temperatures above 200°F.

Licensee's Code Relief Request: Relief is requested from performing the Code-required hydrostatic pressure test on the piping between the reactor coolant pump (RCP) flange and Valves ICC-758A and ICC-758B.

Licensee's Basis for Requesting Relief: The licensee states that the above portions of Class 3 piping for which relief is being requested should have a test pressure based on the safety valve setpoint

(2500 psig) of Valves ICC-762A and ICC-762B. These portions have been designed to a high internal pressure (equivalent to the primary system pressure) to meet conditions that could exist in the event of a heat exchanger leak inside of the pump. The maximum component cooling water pressure inside the thermal barrier under normal operating conditions should not exceed 150 psig. As stated in the manufacturer's technical manual for the RCPs, the maximum allowable thermal barrier heat exchanger internal fuel hydrostatic test pressure is 225 psig. Because of this, hydrostatic testing of components in the attached component cooling water system to higher pressures should only be performed with the heat exchanger isolated or disconnected and bypassed. However, insufficient clearance exists at the flanged connections near Valves ICC-758A and ICC-758B to connect a hydrostatic test rig. Therefore, these portions must be tested coincident with the pressure test that is performed with the adjacent piping system.

Licensee's Proposed Alternative Examination: The hydrostatic test will be performed at the same pressure (200 psig) as the adjacent component cooling water piping system.

Staff Evaluation: The manufacturer's technical manual limits the pressure within the thermal barrier heat exchanger to 225 psig. The attached piping cannot be tested at the required test pressure unless it is isolated or disconnected from the heat exchanger. The licensee states that there is insufficient clearance to connect a hydrostatic test rig to the subject piping, thus, the piping and heat exchanger must be tested coincidentally. Since pressures exceeding 225 psig would damage the thermal barrier heat exchanger, the Code-required hydrostatic test is impractical to perform on the subject piping. In order to perform the test at the required pressure, the RC pumps would have to be redesigned and replaced. Imposition of the requirement on the licensee would cause a burden that would not be compensated by an increase in safety above that provided by the proposed alternative. Therefore, pursuant to 10 CFR 50.55a(g)(6)(i), relief is granted as requested.

3.0 CONCLUSION

Paragraph 10 CFR 50.55a(g)(4) requires that components (including supports) that are classified as ASME Code Class 1, 2, and 3 meet the requirements, except design and access provisions and preservice requirements, set forth in applicable editions of ASME Section XI to the extent practical within limitations of design, geometry, and materials of construction of the components.

Pursuant to 10 CFR 50.55a(g)(5)(iii), the licensee determined that conformance with certain Code requirements is impractical for its facility and submitted supporting information. Pursuant to 10 CFR 50.55a(g)(6)(i), the staff concludes that the requirements of the Code are impractical and relief may be granted for the requests included in the December 19, 1991 submittal. Such relief is authorized by law and will not endanger life, property, or the common defense and security, and is otherwise in the public interest. The relief has been granted giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Principal Contributor: T. McLellan, EMCB/DET
Date: September 4, 1992