September 10, 2003

Mr. Alfred J. Cayia
Site Vice President
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - EVALUATION OF RELIEF REQUEST MR 02-018-2 PERTAINING TO REACTOR VESSEL CLOSURE HEAD PENETRATION REPAIR (TAC NOS. MB6185 AND MB8436)

Dear Mr. Cayia:

By letter dated August 28, 2002, as supplemented April 10 and July 31, 2003, the Nuclear Management Company, LLC (the licensee), submitted Relief Requests MR 02-018-1 and MR 02-018-2 for the Point Beach Nuclear Plant, Units 1 and 2, pertaining to reactor vessel closure head penetration repairs that may become necessary in the event that flaws requiring repair in the reactor vessel closure head (RCVH) penetrations are discovered in upcoming inspections. The Nuclear Regulation Commission (NRC) staff will address Relief Request MR 02-018-1 under separate cover. In Relief Request MR 02-018-2, the licensee requested relief from the requirement to characterize flaws that may exist in the remnants of the control rod drive mechanism (CRDM) nozzle J-groove welds after the repair.

The NRC staff has reviewed Relief Request MR 02-018-2. The NRC staff has determined that compliance with the applicable American Society of Mechanical Engineers *Boiler and Pressure Vessel Code* is impractical and that granting the proposed request for relief will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. The NRC staff also concludes that the flaw evaluation analysis provides reasonable assurance of the structural integrity of the reactor vessel closure head when remnant J-groove welds are not part of the new pressure boundary. Therefore, the NRC staff grants the relief proposed in Relief Request MR 02-018-2 pursuant to 10 CFR 50.55a(g)(6)(i) pertaining to situations where the repair weld does not come into contact with the remnant J-grove weld.

Please be advised that the NRC staff has not granted relief for situations where the portions of the new pressure boundary weld overlap onto portions of the remnant J-groove weld. Should the licensee determine that it is necessary to perform repairs to the CRDM such that the new pressure boundary weld must overlap onto portions of the remnant J-groove weld, it must submit a relief request which provides adequate technical justification of the repair for both Point Beach Units 1 and 2 prior to the start of repair.

The duration of the relief request is for the fourth inservice inspection interval. All other American Society of Mechanical Engineers *Boiler and Pressure Vessel Code*, Section XI, requirements for which relief was not specifically requested and approved by the NRC staff remain applicable, including the third party review by the Authorized Nuclear Inservice Inspector.

A copy of our related safety evaluation is enclosed.

Sincerely,

/RA/

L. Raghavan, 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

The duration of the relief request is for the fourth inservice inspection interval. All other American Society of Mechanical Engineers *Boiler and Pressure Vessel Code*, Section XI, requirements for which relief was not specifically requested and approved by the NRC staff remain applicable, including the third party review by the Authorized Nuclear Inservice Inspector.

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST MR 02-018-2 PERTAINING TO

REACTOR VESSEL CLOSURE HEAD PENETRATION REPAIR

NUCLEAR MANAGEMENT COMPANY, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By letter dated August 28, 2002, as supplemented April 10 and July 31, 2003, the Nuclear Management Company, LLC (the licensee), submitted Relief Requests MR 02-018-1 and MR 02-018-2 for the Point Beach Nuclear Plant, Units 1 and 2, pertaining to reactor vessel closure head penetration repairs that may become necessary in the event that flaws requiring repair in the reactor vessel closure head (RCVH) penetrations are discovered in upcoming inspections. The Nuclear Regulation Commission (NRC) staff will address Relief Request MR 02-018-1 separately. This safety evaluation only deals with Relief Request MR 02-018-2, in which the licensee requested relief from the requirement to characterize flaws that may exist in the remnants of the control rod drive mechanism (CRDM) nozzle J-groove welds after the repair.

2.0 REGULATORY EVALUATION

The inservice inspection (ISI) of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (Code) Class 1, Class 2, and Class 3 components is to be performed in accordance with the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," and applicable edition and addenda as required by 10 CFR 50.55a(g), except where specific relief has been granted by the Commission pursuant to 10 CFR 50.55a(g)(6)(i). The regulation at 10 CFR 50.55a(g)(5)(iii) specifies that if a licensee has determined that conformance with certain code requirements is impractical for its facility, the licensee shall notify the Commission and submit information to support the determinations. Pursuant to 10 CFR 50.55a(g)(6)(i), the Commission will evaluate determinations under 10 CFR 50.55a(g)(5) that code requirements are impractical, and may grant such relief and may impose such alternative requirements as it determine is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) will meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, 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 incorporated by reference in 10 CFR 50.55a(b) 12 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, fourth 10-year ISI interval is the 1998 edition of the ASME Code with addenda through 2000.

3.0 TECHNICAL EVALUATION

3.1 Background

By letter dated August 28, 2002, the licensee requested relief from the flaw characterization requirements of ASME Code, Section XI, IWA-3300(b), IWB-3142.4, and IWB-3420 for Point Beach Unit 1 if welded repairs are required for RVCH penetrations involving CRDM nozzles. By supplemental letter dated April 10, 2003, the licensee expanded applicability of the relief request to Point Beach Unit 2, and provided calculations germane to both Point Beach, Units 1 and 2. By supplemental letter dated July 31, 2003, the licensee provided responses to questions from the NRC staff pertaining to the April 10, 2003, supplemental submittal.

3.2 Code Requirements for which Relief is Requested

The 1998 edition of the ASME Code, Section XI, IWA-3300(b), IWB-3142.4, and IWB-3420, require characterization of a flaw(s) existing in the remnant of the J-groove weld(s) that will remain in service on the Point Beach, Units 1 and 2, RVCH(s) if a CRDM nozzle must be partially removed.

3.3 Licensee’s Relief Requested and Basis

Pursuant to 10 CFR 50.55a(g)(5)(iii), the licensee is seeking relief from characterizing flaws through nondestructive examination (NDE) methods that remain in the CRDM J-groove weld after repair due to impracticality.

The licensee stated that the exterior surface of the RVCH will be examined for evidence of leakage. Penetrations with leakage will be investigated and will be repaired. The repair process consists of machining the lower portion of the CRDM nozzle to approximately mid-wall thickness of the RVCH above the existing J-groove weld, then welding the remaining nozzle to the wall of the reactor vessel. This repair and welding method is discussed in more detail in Relief Request MR 02 018-1, which was included with the August 28, 2002, letter, and will be addressed separately by the NRC staff. The licensee indicated not all of the flaws that were in the original pressure boundary J-groove weld will be removed through the machining process.

The licensee’s position is that if inspection of the RVCH CRDM nozzle penetrations reveal flaws affecting the J-groove attachment welds, it may be impractical to characterize these flaws by NDE. It is extremely difficult to do ultrasonic testing (UT) on the original CRDM nozzle to RVCH weld configuration due to the compound curvature and fillet radius. The licensee stated that due to limited accessibility from the RVCH outer surface and the proximity of adjacent nozzle penetrations, it is impractical to scan from this surface on the RVCH base material to detect flaws in the vicinity of the original weld. The design configuration precludes ultrasonic coupling and control of the sound beam in order to perform flaw sizing with reasonable confidence in measuring the flaw dimension. Therefore, it is impractical, and presently, the technology does not exist to characterize flaw geometries that may exist therein.

For analysis purposes, the licensee assumed that a flaw(s) may exist in the J-groove weld from the weld surface to the RVCH base metal interface. Based on extensive industry experience and more specifically, Framatome ANP experience, there are no known cases where flaws initiating in an Alloy 82/182 weld have propagated into the ferritic base metal. Stress-corrosion cracking (SCC) of carbon and low alloy steels is not a problem under boiling-water reactor or pressurized-water reactor conditions, according to the licensee. Instead, an interdendritic crack, propagating from the J-groove weld area, is expected to blunt and cease propagation. This has been the case for interdendritic SCC of stainless steel cladding cracks in charging pumps, and by recent events with primary water stress-corrosion cracking (PWSCC) of Alloy 600 weld metals at Oconee 1 and V.C. Summer.

The licensee indicated it will be shown acceptable to leave the postulated cracks in the original Ni-Cr-Fe CRDM housing nozzle to RVCH attachment weld. The licensee indicated that evaluations performed in support of Relief Request MR 02-018-2 will provide an acceptable level of quality and safety without performing flaw characterization required in ASME Code, Section XI, 1998 edition, 2000 addenda, IWA-3300, IWB-3142.4, and IWB-3420. The licensee performed the evaluations in support of the relief request. The NRC staff's evaluation of the licensee's relief request is discussed in Section 3.5 below. ASME Code, Section XI, flaw evaluations in accordance with IWB-3610 will be performed to show the flaws are acceptable for a number of years. The only driving mechanism for growth of the flaw is fatigue crack growth. The evaluation will assume a radial (with respect to the penetration centerline) crack exists with a length equal to the partial penetration weld preparation depth (throat). The depth of the assumed flaw will be based on the amount of the original partial penetration weld and what actually remains attached to the RVCH after repair activities are complete, including some grinding to improve the contour in the area.

Although residual stresses in the RVCH metal are low, it will be assumed that a small flaw could initiate in the low alloy steel metal and grow by fatigue. The licensee postulates that a small flaw in the RVCH would combine with a large SCC in the weld to form a radial corner flaw that will then propagate into the low alloy steel RVCH by fatigue crack growth under cyclic loading conditions associated with heat-up and cool-down and other applicable transients.

The licensee stated that residual stresses will not be included in the flaw evaluation since it will be demonstrated by analysis that these stresses are compressive in the low alloy steel base metal. The licensee indicated that because the area of the weld following the boring operation would be relieved by such a deep crack, any remaining residual stresses need not be considered. Flaw evaluations would be performed for a postulated radial corner crack on the RVCH penetration where stresses are the highest and the radial distance from the inside corner to the low alloy steel base metal is the greatest. Fatigue crack growth calculated for the remaining operating life should be small and the final flaw size will be shown to meet the requirements of the ASME Code for ferritic metals.

An analysis of the new pressure boundary welds will be performed using a three-dimensional model of a CRDM nozzle located at the most severe hillside orientation. The software program

ANSYS (general purpose finite element program that is used industry-wide) will be used for this analysis. Per Framatome-ANP internal procedures, the ANSYS computer code is independently verified as executing properly by the solution of verification problems using ANSYS and then comparison of the results to independently determined values. The analytical model will include the RVCH, CRDM nozzle, repair weld, and remnant portions of the original ALLOY 600 welds. Portions of the new structural weld which overlap the original structural weld will be assumed to be not load-carrying. The model will be analyzed for thermal transient conditions as contained in the Point Beach Unit 1 design specifications. The resulting maximum thermal gradients will be applied to the model along with the coincident internal pressure values. The ANSYS program will then calculate the stresses throughout the model (including the repair welds). The stresses will be post-processed by ANSYS routines to categorize stresses consistent with the criteria of the ASME Code.

The licensee indicated that the calculated stress values will be compared to the ASME Code, Section III, NB-3000 criteria for:

Design Conditions
Normal Operating, and Upset Conditions
Emergency Conditions
Faulted Conditions
Testing Conditions

The licensee stated that a very conservative stress concentration factor (SCF) of 4.0 will be assumed for the new pressure boundary weld. A primary stress analysis for design conditions will be performed. A maximum primary general membrane stress intensity (Pm) will be calculated and shown to be less than the maximum allowed by the ASME Code. This value will actually be for the RVCH low alloy steel base material, but has the minimum margin for primary stress criteria of any portion of the model (including repair weld, CRDM nozzle, or original welds).

The maximum cumulative fatigue usage factor will be calculated for the point at the intersection of the bottom of the repair weld and the penetration bore and the crevice between the CRDM nozzle outside surface and the RVCH bore. Allowable years of future plant operation will be based on the maximum allowed ASME Code usage factor criterion of 1.0. It is anticipated that the limiting location for this value will be the point at the intersection of the bottom of the repair weld and the penetration bore. At the bottom of the crevice between the CRDM nozzle outside surface and the RVCH bore, the calculated fatigue usage factor is not expected to be limiting to the fatigue life of the repair.

Additionally, the basis will require that a fracture mechanics evaluation be performed to determine if degraded J-groove weld material could be left in the vessel with no examination to size any flaws that might remain following the repair. Since the hoop stresses in the J-groove weld are generally about two times the axial stress at the same location, the preferential direction for cracking is axial or radial relative to the nozzle. It will be postulated that a radial crack in the Alloy 182 weld metal would propagate, due to PWSCC through the weld and butter to the interface with the low alloy steel RVCH. It is fully expected that such a crack would then blunt and arrest at the butter-to-head interface. Ductile crack growth through the Alloy 182 material would tend to relieve the residual stresses in the weld as the crack grows to its final size and is blunted. Although residual stresses in the RVCH material are low, it will be assumed that a small flaw could initiate in the low alloy steel material and grow by fatigue. It will be postulated that a small flaw in the RVCH would combine with a large SCC in the weld to form a radial corner flaw that would propagate into the low alloy steel RVCH by fatigue crack growth under cyclic loading conditions associated with heat-up and cool-down, plant loading and unloading, and rapid transients. Residual stresses will not be included in the flaw evaluations since it will be demonstrated by analysis that these stresses are compressive in the low alloy steel base metal. Because the area of the weld following the boring operation would be relieved by such a deep crack, any remaining residual stresses need not be considered.

The licensee's basis for relief is that flaw evaluations will be performed for a postulated radial corner crack on the uphill side of the RVCH penetration where the stresses are the highest and the radial distance from the inside corner to the low alloy steel base metal (crack depth) is the greatest. Hoop stresses will be used since they are perpendicular to the plane of the crack. Fatigue crack growth, calculated for the remaining operational life, will be small and the final flaw size will be shown to meet the fracture toughness requirements of the ASME Code using an upper-shelf value of 200 ksi√in for ferritic materials.

The licensee's position is that the evaluations discussed above provide an acceptable level of quality and safety without performing flaw characterization, as required by the 1998 edition of the ASME Code, Section XI, with addenda through 2000, IWA-3300 (b), IWB-3142.4, and IWB-3420.

3.4 NRC Staff Evaluation

The construction code of record for Point Beach Unit 1 is ASME Code, Section III, 1965 edition. The ISI code of record for both Units 1 and 2 is the ASME Section XI, 1998 edition, with addenda through 2000. IWA-3300(b) and IWB-3420 require that detected flaw(s) shall be characterized to establish the dimensions of the flaws.

This safety evaluation will discuss repairs to the CRDM nozzles under two different configurations: cases where 1) the newly deposited repair weld does not come in contact with the remnant J-groove weld; and 2) the newly deposited repair weld comes into contact with the remnant J-groove weld due to the curvature of the Point Beach RVCH head.

3.4.1 Cases where repair weld does not come into contact with remnant J-groove weld

The repair plan consists of partially machining out the CRDM nozzle through the section of the J-groove weld which attaches the nozzle to the RVCH head, up to approximately mid-wall. At mid-wall, the remaining portion of the nozzle is welded and acts as the pressure-retaining boundary. This repair action changes the code category of the remnant J-groove weld from Examination Category B-O, "Pressure Retaining Welds in Control Rod Housings," to a nonpressure-retaining weld which is part of the base metal thickness. The newly deposited repair weld area is now treated as the new pressure-retaining weld and examined as Examination Category B-O under the ISI program.

The licensee's position is that the original CRDM nozzle to RVCH weld configuration is extremely difficult to do UT due to the compound curvature of the head and fillet radius. These conditions preclude ultrasonic coupling from the RPV and control of the sound beam in order to perform flaw sizing with reasonable confidence in measuring the flaw dimension from the inner surface of the head. The licensee indicated that it is impractical and the technology does not exist to characterize flaw geometries that may exist in the J-groove weld. Another issue is the dissimilar metal interface between the Ni-Cr-Fe weld and the low alloy steel closure head which increases the difficulty of UT. Impediments to examination from the outer surface of the RVCH exist due to proximity of adjacent nozzle penetrations according to the licensee. Based on these physical limitations, the licensee further stated that the inability to characterize the flaws will continue in the foreseeable future, making subsequent examinations impractical.

The NRC staff agrees that examination of any flaws in the J-groove weld region is impractical due to the configuration. The angle of incidence from the outer surface of the closure head base material does not permit perpendicular interrogation by ultrasonic shear wave techniques of circumferentially oriented flaws and the physical proximity of the nozzle does not allow for longitudinal scrutiny of the area of interest. If examination of the J-groove weld were to be attempted from the inner diameter of the head, the cladding would provide an acoustic interface which would severely limit a confident examination of the weld material. Radiography of this area is impractical due to orientation of circumferentially oriented flaws being perpendicular to gamma and x-rays. Dye penetrant and magnetic particle examination will not provide useful volumetric information since these are surface techniques.

IWB-3142.4 states that a component containing relevant conditions is acceptable for continued service if an analytical evaluation demonstrates the component's acceptability. The licensee performed an analytical flaw evaluation of Point Beach Unit 1 CRDM nozzles with postulated J-groove weld flaws using Framatome ANP Calculation Summary Sheet 32-5019396-00[1], "PB-1 CRDM Nozzle IDTB J-Groove Weld Flaw Evaluation," dated September 25, 2002, which documents the performance of a flaw evaluation for a postulated large radial crack in the remnants of the original J-groove weld and butter at the CRDM nozzle reactor vessel head penetration after machining. In the analysis, the licensee assessed the suitability of leaving degraded J-groove weld material in the respective RVCH following the repair of a CRDM nozzle by the ID temper-bead weld procedure. It was postulated that a small flaw in the head would combine with a large SCC in the weld to form a radial corner flaw that would propagate into the low alloy steel head by fatigue crack growth under cyclic loading copy conditions.

The licensee's design specifies a chamfer at the inside corner of the remaining J-groove weld to limit the height of the weld along the beveled surface from the inside corner to the low alloy steel head. After machining, the initial flaw depth would be postulated for the flaw in the remaining J-groove weld at the outermost nozzle location on the downhill side. The outermost

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[1]The NRC staff reviewed Framatome ANP Calculation Summary Sheet 32-5019396-00, "PB-1 CRDM Nozzle IDTB J-groove Weld Flaw Evaluation," submitted by the licensee's April 10, 2003, supplemental letter. The proprietary version of this document provided numerical values, in inches, for the following items which are discussed in this safety evaluation, however due to the proprietary nature, these numerical values are not disclosed:

1. The value for the postulated large radial crack in the remnants of the original J-groove weld and butter at the CEDM nozzle reactor vessel head penetration after machining.
2. The value for the licensee's design which specifies a chamfer at the inside corner of the remaining J-groove weld to limit the height of the weld along the beveled surface, from the inside corner to the low alloy steel head.
3. The value for the initial flaw depth, after machining, in the remaining J-groove weld at the outermost nozzle location on the downhill side.
4. The value for the postulated radial crack which grew after 25 years of operation, and the value of the actual fracture toughness margin which exceeds the Code-required minimum margin of 3.16.

nozzle locations are considered the most highly stressed locations on the head when considering all locations. The licensee states that the analysis shows that the residual hoop stress changes from tensile to compressive in the buttering and continues to be compressive into the ferritic low alloy steel reactor vessel head. The staff concludes that this is consistent with published technical data and is therefore acceptable. The postulated radial crack grew after 25 years of operation with a fracture toughness actual margin which exceeds the Code-required minimum margin of 3.16. The NRC staff found from its review of the subject calculation that the methodology used by the licensee to determine flaw geometry, fracture toughness for crack arrest, fatigue crack growth in a primary water environment, and the overall fracture mechanics methodology was consistent with ASME Code requirements. The NRC staff concludes that the flaw evaluation analysis --assuming a flaw remains in the as left J-groove weld when the repair weld does not come into contact with the remnant J-groove weld-- provides reasonable assurance of the structural integrity of the RVCH, and is therefore, acceptable.

IWB-3142.4 also requires that components accepted for continued service based on analytical evaluation shall be subsequently examined in accordance with IWB-2420(b) and (c). The licensee's relief request omitted this requirement. The licensee has analyzed the flaw as acceptable for continued service based on presumption that the flaw grows to the clad/ferritic junction and blunts. The remaining flaws (if any are present) are no longer in a pressure-retaining weld and, based on industry experience, will arrest at the junction of the clad/ferritic metal interface. The NRC staff concludes successive inspections of the as-left J-groove weld would not provide meaningful information as far as characterizing the flaws due to the impracticality of the examination as previously discussed.

3.4.2 Cases where repair weld comes into contact with remnant J-groove weld

The repair plan is the same as previously discussed, but the newly deposited repair weld comes into contact with the remnant J-groove weld due to the location of the nozzle and curvature of the Point Beach reactor vessel head. If a repair is made due to leakage, it must be assumed that the remnant J-groove weld is flawed. At mid-wall, the remaining portion of the nozzle is welded and acts as the pressure-retaining boundary. However, this repair action differs from the one previously discussed because the new pressure boundary contains part of the remnant (flawed) pressure boundary.

Recent industry experience has come to light at the ANO-1 and North Anna Nuclear Plants where weld repairs cracked at the junction of the Alloy 52 and Alloy 182 boundary after one cycle of operation. The licensee discussed the actions that will be taken in the area of monitoring the repair for structural integrity when the new repair weld overlaps the remnant J-groove weld because of this new information. The licensee responded in its July 31, 2003, supplemental letter that the life of the repair would be for one cycle. The licensee's basis for relief is that the possible overlap which may occur on a repair will not constitute the entire length of the new Alloy 52 weld. By using a conservative confluence of minimum tolerances, there will be a satisfactory ligament where the new Alloy 52 weld does not overlap the old Alloy 182 weld that is attached to the low-alloy steel RVCH. The licensee cited past industry experience as the basis for acceptability which, in the opinion of the NRC staff, no longer applies. Similarly, the calculations provided in the licensee's April 10, 2003, supplemental letter do not evaluate the welding effects on a flawed remnant J-groove weld as part of the pressure boundary as required by ASME Code, Section XI, IWB-3142.4, either in the degraded remnant J-groove or at the repair weld triple point.

Based on the above discussion, the NRC staff has determined that the licensee has not provided adequate technical justification supporting (1) the structural integrity of the new pressure boundary weld, or (2) relief from the ASME Code flaw characterization and successive examination requirements when the remnant J-groove weld becomes part of the new pressure boundary. Therefore, relief is not granted for this configuration. If the morphology of the repair results in the remnant J-groove weld being part of the new pressure boundary, the licensee must submit a relief request which provides adequate technical justification of the repair for both Point Beach Units 1 and 2 prior to the start of repair. The justification must also address relief from IWB-2420(b) since the flawed portion is within the new pressure boundary.

4.0 CONCLUSION

The NRC staff concludes that requiring the licensee to comply with the ASME Code, Section XI, NDE requirements is impractical when characterizing flaws in remnant J-groove welds as stated under Relief Request MR 02-018-2 for Point Beach, Units 1 and 2, when remnant J-groove welds are not part of the new pressure boundary. The staff also concludes that the flaw evaluation analysis, assuming a flaw remains in the as left J-groove weld when the repair weld does not come into contact with the remnant J-groove weld, provides reasonable assurance of the structural integrity of the RVCH.

The licensee requested that relief be granted pursuant to 10 CFR 50.55a(g)(5)(iii). The NRC staff concludes that compliance with the applicable ASME Code section is impractical and has granted relief pursuant to 10 CFR 50.55a(g)(6)(i) for the Point Beach, Units 1 and 2, fourth ISI interval for repairs to the RVCH CRDM nozzles. This granting of relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility. However, relief is not granted for the situation where the portions of the new pressure boundary weld overlap onto portions of the remnant J-groove weld. Should the licensee determine that it is necessary to perform repairs to the CRDM such that the new pressure boundary weld must overlap onto portions of the remnant J-groove weld, it must submit a relief request which provides adequate technical justification of the repair for both Point Beach Units 1 and 2 prior to the start of repair. The justification must also address relief from IWB-2420(b) since the flawed portion is within the new pressure boundary.

All other ASME Code, Section XI, requirements for which relief was not specifically requested and approved by the NRC staff herein remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: T. Steingass

Date: September 10, 2003