August 15, 2003

Mr. James J. Sheppard
President and Chief Executive Officer
STP Nuclear Operating Company
South Texas Project Electric
Generating Station
P. O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNIT 1 - RELIEF REQUEST RR-ENG-2-32, REQUEST FOR ALTERNATIVE TO AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE SECTION XI AND SECTION III REQUIREMENTS ASSOCIATED WITH HALF-NOZZLE REPAIR/REPLACEMENT FOR BOTTOM-MOUNTED INSTRUMENT PENETRATIONS (TAC NO. MB9696)

Dear Mr. Sheppard:

By letter dated June 19, 2003, as supplemented by letters dated July 3 (2 letters), and July 17, 2003, STP Nuclear Operating Company, the licensee, requested U. S. Nuclear Regulatory Commission (NRC) relief from the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Section XI requirements associated with half-nozzle repair/replacement for bottom-mounted instrument (BMI) penetrations.

Specifically, the licensee requested relief from the ASME Section XI, IWA-4120(a), Section III, Paragraph NB-4622-1 and NB-5245 requirements. The licensee proposed alternatives to these requirements, including the alternative to use the provisions of Code Case N-638 to deposit weld metal pads on the outside surface of the reactor vessel bottom head at repaired penetrations without postweld heat treatment.

The licensee's proposed alternatives to the Code requirements provide an acceptable level of quality and safety regarding the structural integrity of the repair. Therefore, relief is granted pursuant to Section 10 CFR 50.55a(a)(3)(i) of Title 10 of the *Code of Federal Regulations*, for South Texas Project (STP), Unit 1. The alternatives to the Code requirements are to be implemented during the current STP, Unit 1, forced outage for repairing/replacing the BMI nozzles for penetrations 1 and 46.

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

In your application dated June 19, 2003, you had requested relief from ASME Code to use Code Case N-638. In addition, you further identified alternatives to Code Case N-638. The NRC staff has determined that the Code Case alternative associated with Paragraph 2.1(a) is not necessary since the alternative is well within the parameters detailed in the Code Case.

In view of the immediate and possible need to conduct repair/replacement of the BMI penetrations during the current Unit 1 forced outage, the NRC staff provided, on July 30, 2003, a verbal authorization for the use of alternatives to the requirements of ASME Section XI and Section III Codes, including the approval of Section XI Code Case N-638, for repair/replacement of the BMI penetrations 1 and 46. This letter documents our verbal authorization.

The NRC staff's safety evaluation supporting the authorization of relief is enclosed.

Sincerely,

/RA/

Robert A. Gramm, Chief, Section 1
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-498

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR RELIEF RR-ENG-2-32, REQUEST FOR ALTERNATIVE TO

AMERICAN SOCIETY OF MECHANICAL ENGINEERS

BOILER AND PRESSURE VESSEL CODE

SECTION XI REQUIREMENTS FOR HALF-NOZZLE REPAIR/REPLACEMENT

OF BOTTOM-MOUNTED INSTRUMENT PENETRATIONS

STP NUCLEAR OPERATING COMPANY

SOUTH TEXAS PROJECT, UNIT 1

DOCKET NO. 50-498

1.0 INTRODUCTION

By letter dated June 19, 2003, as supplemented by letters dated July 3 (2 letters) and July 17, 2003, STP Nuclear Operating Company (STPNOC), the licensee for South Texas Project (STP), Unit 1, submitted Relief Request Number RR-ENG-2-32. The licensee requested relief from certain requirements of the 1989 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," and the 1971 Edition with 1973 Addenda of ASME, Section III, in order to perform the repair/replacement of bottom-mounted instrument (BMI) penetrations during the current Unit 1 forced outage.

2.0 BACKGROUND

The Inservice Inspection (ISI) of the ASME Class 1, 2, and 3 components is to be performed in accordance with Section XI of the ASME Code and applicable edition and addenda as required by Section 50.55a(g) of Title 10 of the *Code of Federal Regulations* (10 CFR), except where specific relief has been granted by the U. S. Nuclear Regulatory Commission (NRC or the Commission) pursuant to 10 CFR 50.55a(g)(6)(i). The requirements at Section 50.55a(a)(3) state in part that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if the licensee demonstrates that: (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) 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 ISI code of record for STP, Unit 1, second 10-year ISI interval is the 1989 Edition of the ASME Code.

STPNOC has identified two BMI nozzles that were required to be repaired/replaced during the current forced outage. The repair/replacement of these nozzles utilized the half-nozzle technique in which the lower portion of the nozzle was replaced with a nozzle fabricated from ASME SB-166 Alloy 690 material and the pressure boundary weld was moved from the inside to the outside of the reactor vessel bottom head (RVBH). An Inconel Alloy 52 weld pad was deposited on the outside surface of the RVBH around each of these penetrations and a J-groove weld preparation was machined in the pad for attachment of the Inconel Alloy 690 nozzle. In accordance with IWA-4120(a), STPNOC used the original Section III Code requirements applicable to the RVBH and BMI nozzles as the basis for the repair/replacement.

The BMI penetrations subject to repair/replacement were modified as follows. The piping was removed from the nozzle. The lower end of the nozzle was removed flush with the RVBH outer surface. A remotely operated weld head was used to deposit an Alloy 52 (F-No. 43 filler material) weld pad on the outside surface of the low alloy steel RVBH (P-No. 3 Group No. 3) base material, utilizing the machine Gas Tungsten Arc Welding (GTAW) process, and the ambient temperature temper bead technique with 50°F minimum preheat and no postweld heat treatment. The weld pad was of a thickness to provide for sufficient cover over the ferritic low alloy steel material so the replacement nozzle-to-pad weld was performed using conventional welding methods. The lower end of the original Alloy 600 nozzle was removed by drilling and replacing with an Alloy 690 half-nozzle. The Alloy 690 replacement half-nozzle was welded to the Alloy 52 pad in accordance with ASME Section III requirements. The original Alloy 182 J-groove weld at the interior surface of the RVBH remained intact.

3.0 EVALUATION OF RELIEF REQUEST

3.1 Subject of Relief Request:

STPNOC has requested NRC approval of alternatives to the requirements of ASME Section XI and Section III Codes, including the approval of Section XI Code Case N-638. These alternatives are being requested for use in the repair/replacement of BMI penetrations during the current Unit 1 forced outage. STPNOC proposes to use the provisions of Code Case N-638 to deposit weld metal pads on the outside surface of the reactor vessel bottom head at repaired penetrations without postweld heat treatment.

3.2 The Items for which Relief is Requested (as stated):

> Reactor Vessel BMI nozzle penetrations. There are 58 BMI nozzles welded to the bottom head of the reactor vessel. The ASME Code Class is Class 1.

This request for relief applies to BMI penetrations 1 and 46 only.

3.3 Code and Code Requirement (as stated):

ASME Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," 1989 Edition, no Addenda

Section XI, IWA-4120(a) states:

> Repairs shall be performed in accordance with the Owner's Design Specification and the original Construction Code of the component or system. Later Editions and Addenda of the Construction Code or of Section III, either in their entirety or portions thereof, and Code Cases may be used. If repair welding cannot be performed in accordance with these requirements, the applicable alternative requirements of IWA-4500 and the following may be used...

The Construction Code for the STP Unit 1 reactor vessel bottom head (RVBH) and BMI penetration nozzles is the 1971 Edition of ASME Section III with addenda through the Summer 1973 Addenda (1971-S1973).

Section III, Paragraph NB-4622.1 states in part:

> ... all welded components or pieces of components shall be given a final postweld heat treatment at a temperature not less than specified in Table NB-4622.1-1...

Section III, Paragraph NB-5245 states:

> Partial penetration welds, as permitted in NB-3352.4(d), shall be examined progressively using the magnetic particle or liquid penetrant methods.
>
> The increments of examination shall be the lesser of 1/2 of the maximum weld dimension measured parallel to the centerline of the connection or 1/2 inch. The surface of the finished weld shall also be examined.

3.4 Reasons for the Request (as stated):

STP Nuclear Operating Company (STPNOC) cannot meet all the applicable requirements of the 1971-S1973 Section III Code. Therefore, this request for alternative applies to Section XI, IWA-4120(a) and specified portions of the Section III Code as described below.

3.5 Licensee's Proposed Alternatives (as stated):

This request for alternative identifies the specific requirements of Section III and Code Case N-638 that will not be met and proposes alternatives that provide an acceptable level of quality and safety.

3.5.1 Alternative to Section III. NB-4622.1 (as stated):

Paragraph NB-4622.1 of the 1971-S1973 Section III Code requires a minimum postweld heat treatment (PWHT) temperature of 1100° F for P-No. 3 material. Performance of this PWHT is not practical for this repair/replacement because the reactor vessel is filled with water and the time spent performing PWHT would result in additional radiation dose to repair personnel.

As an alternative to the PWHT requirements, STPNOC proposes to deposit weld pads on the RVBH in accordance with Code Case N-638. This Code Case allows performance of the repair with a remotely operated machine GTAW process and the ambient temperature temper bead method with 50° F minimum preheat temperature and no PWHT.

3.5.2 Alternative to Section III. NB-5245 (as stated):

There are no nondestructive examination (NDE) requirements in Section III specifically applicable to the proposed weld configuration, which is a reinforced partial penetration nozzle weld. The weld pad on the RVBH is similar to the weld reinforcement described in NB-5244 for attachment of nozzles in vessels with full penetration welds, which requires an ultrasonic examination (UT). The nozzle-to-pad weld is a partial penetration weld. Paragraph NB-5245 provides NDE requirements for partial penetration welds and requires a two-stage liquid penetrant (PT) or magnetic particle (MT) examination. Section III, NB-5244 and NB-5245 are both applicable, but NB-5245 more closely matches the proposed configuration and is selected as the most applicable examination requirement.

The weld pad on the outside surface of the RVBH will be considered a partial penetration weld (refer to NB-3337.3) for Section III NDE purposes. STPNOC proposes to perform both UT (to the extent practical) and PT examinations of the final weld pad in accordance with the requirements of Code Case N-638 in lieu of the two-stage PT or MT required by NB-5245.

3.5.3 Alternative to Code Case N-638. Paragraph 4.0(b) (as stated):

Paragraph 4.0(b) includes the requirement that a surface examination and UT examination be performed on the five-inch band of base material surrounding the weld pad after the weld has been at ambient temperature for 48 hours. STPNOC believes there is no need to volumetrically examine this base material because the BMI repair/replacement application is not a typical application of Code Case N-638. STPNOC proposes to perform only an MT examination of the surface of this five-inch band of base material surrounding the weld pad and a PT examination of the base material surface adjacent to the weld pad.

3.6 Basis of Alternatives Providing an Acceptable Level of Quality and Safety

3.6.1 Basis of Alternatives to Section III, NB-4622.1 (as stated):

The welding controls of Code Case N-638 assure tempering of the low alloy base material heat-affected zone (HAZ) and previous layers of weld metal such that PWHT is not required for relief of the weld-induced stresses in the HAZ and weld pad.

Code Case N-638 has been preliminarily approved by NRC in Draft Regulatory Guide DG-1091 (Proposed Revision of Regulatory Guide 1.147), December 2001. Table 1 of DG-1091, "Acceptable Section XI Code Cases," lists Code Case N-638 with no exceptions or conditions on its application. Regulatory Guide 1.147, Revision 13 is expected to be published in the near future and adopted by a rulemaking in 10 CFR 50.55a. [At the time of the preparation of this Safety Evaluation, Regulatory Guide 1.147, Revision 13 was published in June 2003 and has been adopted by a rulemaking as of an effective date of August 7, 2003.]

A Welding Procedure Qualification has been conducted by [the licensee's contractor] using P-No. 3 Group No. 3 material welded with F-No. 43 filler metal and machine GTAW ambient temperature temper bead welding. [The procedure qualification] exhibited improved Charpy V-notch properties in the HAZ from both absorbed energy and lateral expansion perspectives, compared to the unaffected base material.

The absorbed energy, lateral expansion, and shear fracture averages were equal to or greater for the HAZ than for the unaffected base material. It is clear from these results that the GTAW ambient temperature temper bead process has the capability of producing acceptable repair welds.

As documented by EPRI [Electric Power Research Institute] (Ref. A.1) [Report GC-111050, "Ambient Temperature Preheat for Machine GTAW Temperbead Application," dated November 1998], research shows that carefully controlled heat input and bead placement allow subsequent welding passes to relieve stress and temper the HAZ of the base material. The use of the machine GTAW temper bead process will allow precise control of heat input, bead placement, and bead size and contour as compared to the shielded-metal arc welding process. The very precise control over these factors afforded by the machine GTAW process provides effective tempering of the HAZ.

The machine GTAW temper bead process uses a welding process that is inherently free of hydrogen. The GTAW process relies on bare welding electrodes and bare wire filler metal with no flux to trap moisture. An inert gas blanket provides shielding for the weld and surrounding metal, which protects the region during welding from the atmosphere and the moisture it may contain, and typically produces porosity-free welds. In accordance with the weld procedure qualification, welding grade argon is used for the inert gas blanket. Typically, the argon is 99.997% [percent] pure with no more than 1 ppm [part per million]

hydrogen. A typical argon flow rate [...] would be adjusted to assure adequate shielding of the weld without creating a venturi affect that might draw oxygen or water vapor from the ambient atmosphere into the weld. Specific controls to ensure the welding electrodes, filler metal, and the weld region are free of all sources of hydrogen will be used to further reduce the likelihood of any hydrogen evolution or absorption.

Based on [the licensee's contractor's] prior welding procedure qualification test data using machine GTAW ambient temperature temper bead welding, quality temper bead welds can be performed with 50° F minimum preheat and no postweld heat treatment. The procedure and controls associated with machine GTAW are acceptable for this application. The preheat and post-heat temperature requirements are unnecessary to ensure an acceptable level of quality and safety. Further, attaining these elevated preheat and post-heat temperatures would result in increased radiation dose to repair personnel due to the need to install and remove heating equipment and insulation.

Quality temper bead welds without preheat and postweld heat treatment can be made based on welding procedure qualification test data derived from the machine GTAW ambient temperature temper bead welding process. The results of procedure qualification work undertaken to date indicate that the process produces sound and tough welds. For instance, typical tensile test results have been ductile breaks in the weld metal. In cases where failure was in the weld, the weld tensile strength was greater than the specified minimum tensile strength of the test assembly ferritic steel base material.

3.6.2 Basis of Alternatives to Section III. NB-5245 (as stated):

The PT examination required by NB-5245 has limited capability. It can only detect surface connected flaws on the weld surface at half thickness and final thickness. The zero degree UT technique can detect welding flaws (e.g., lack of fusion, lack of penetration) at the weld-base material interface as well as throughout the weld metal. This UT technique will also examine the base material below the weld pad for laminations and other base material flaws. Additionally, 45- and 60-degree angle refracted longitudinal wave UT beams will be used to examine the weld pad and 1/4 inch of low alloy base material below the weld pad. The creeping wave UT technique will also be applied on the weld pad surface.

After completion of the BMI repair/replacement welding, the modified nozzle welds, including the deposited weld pad, will be visually (VT-2) examined for leakage during a system leakage test in accordance with Code Case N-416-2. This Code Case requires NDE of BMI repair/replacement welds in accordance with the methods and acceptance criteria of Subsection NB of the Section III Code, 1992 Edition. Since the NDE requirements of Code Case N-638 will be used in lieu of Section III NDE requirements to verify the quality of the repair welding, these same Code Case N-638 NDE requirements should take precedence over those in Code Case N-416-2.

Therefore, the UT examinations of the weld pad will meet the methodology requirements of Section XI, Appendix I (i.e., Article 4 or Article 5, as applicable, of Section V, 1989 Edition with 1989 Addenda). The UT acceptance standards will be in accordance with IWB-3000 of Section XI, 1989 Edition. The PT and MT examinations will meet the methodology and acceptance standard requirements of NB-5000 of Section III Code, 1992 Edition.

The zero degree and angle beam UT examinations of the weld pad, the PT examination of the final weld pad surface, and the MT applied pre- and post-welding on the low alloy base material provide an acceptable level of quality and safety.

3.6.3 Basis of Alternatives to Code Case N-638. Paragraph 4.0(b) (as stated):

The UT examination of the base material beyond the weld repair in Code Case N-638 is intended to detect additional base material defects around the defect being excavated and repaired. The provisions of Code Case N-638 are being used to deposit a weld pad on the surface of unflawed low alloy base material. Welding the pad to the RVBH low alloy material is not expected to have any effect on the low alloy material beyond the weld pad, especially within the volume of the low alloy material. The weld pad and the base material below the weld pad will be examined by a zero degree UT technique. The weld pad will also be examined with 45- and 60-degree refracted longitudinal wave beams and a creeping wave technique. Performing UT on the base material beyond the weld pad in this application has no technical basis and is contrary to the STP ALARA [as low as reasonably achievable] program.

An MT examination will be performed on the five-inch radial band of base material around the weld pad after pad deposit. This MT examination will detect surface-connected or near-surface discontinuities (if any) in this band produced by the welding process. Additionally, a PT examination will be performed on the surface of the weld pad, including adjacent portions of the low alloy base material. This assures full PT examination coverage of the edge of the weld pad and HAZ adjacent to the weld pad.

The alternative of an MT examination of the five-inch base material band, with supplemental coverage by PT examination of the material adjacent to the pad, after the weld pad has been deposited will provide an acceptable level of quality and safety.

3.7 Staff Evaluation:

The NRC staff has evaluated the licensee's request and supporting information for approval of alternatives to the requirements of ASME Section XI and Section III Codes, including the alternative to use the provisions of Code Case N-638 to deposit weld metal pads on the outside surface of the reactor vessel bottom head at repaired penetrations without postweld heat treatment.

Alternative to Section III. NB-4622.1

The proposed ambient temperature temper bead welding technique is carefully designed and controlled such that successive weld beads supply the appropriate quantity of heat to the untempered HAZ zone and the desired degree of tempering is achieved. The use of the ambient temperature automatic or machine GTAW temper bead process allows more precise control of heat input, bead placement, and bead size and contour than those employed by the manual shielded metal arc welding process required by ASME Code, Sections III and XI. The very precise control over these factors afforded by the process provides more effective tempering and eliminates the need to grind or machine the first layer of weld. The resulting microstructure is tough and ductile. Based on Charpy V-notch testing of the procedure qualification test coupon, impact properties in the weld HAZ were greater than those of the unaffected base material. Therefore, the proposed heat input controls will provide an appropriate level of tempering.

The use of a GTAW temper bead welding technique to avoid the need for postweld heat treatment is based on research that has been performed by EPRI and other organizations. The research demonstrates that carefully controlled heat input and bead placement allow subsequent welding passes to relieve stress and temper the HAZ of the base material and preceding weld passes. Data presented in the EPRI report show the results of acceptable procedure qualifications performed with 300°F preheats and 500°F preheats, as well as with no preheat and postheat. Many acceptable Procedure Qualification Records and Welding Procedure Specifications presently exist which have been utilized to perform numerous successful repairs which indicate that the use of the ambient GTAW temper bead welding technique is an acceptable approach. From this data, it can be shown that adequate toughness can be achieved in base metal and HAZs with the use of a GTAW temper bead welding technique. The temper bead process has been shown to be effective by research, successful procedure qualifications, and many successful repairs performed since the technique was developed. Therefore, the alternative temperature proposal is acceptable. Data from welding procedure qualification tests using the machine GTAW ambient temperature temper bead welding shows that quality temper bead welds can be performed with a 50°F minimum preheat and no post-heat treatment.

To reduce the possibility of hydrogen embrittlement, the ambient temperature automatic and machine GTAW temper bead processes require specific controls to ensure that the weld region is free of all sources of hydrogen, as described in the proposed alternative. The 48 hour delay before final examination required by the proposed alternative provides time for any hydrogen delayed cracking to occur. Thus, in the highly unlikely event that hydrogen induced cracking did occur, it would be detected.

Therefore, the staff considers that the licensee's proposed alternative to Section III. NB-4622.1 of the ASME Code provides an acceptable level of quality and safety.

Alternative to Section III. NB-5245

The licensee indicated that the weld pad on the outside surface of the RVBH is considered a partial penetration weld and proposed a final UT (to the extent practical) and PT examinations as an alternative to the requirements of NB-5245. NB-5245 requires a progressive MT or PT examination. The licensee proposes that the increments of examination shall be the lesser of

one-half of the maximum welded joint dimension measured parallel to the center line of the connection or ½ in. The surface of the finished weld shall be examined by either method. The licensee indicated that this NDE alternative is consistent with the NDE requirements prescribed by Code Case N-638.

The staff concludes that the proposed NDE alternative is consistent with Code Case N-638 NDE requirements. The NRC staff has accepted Code Case N-638 for use as an alternative to the ASME Code Section XI requirements and documented its acceptance in Regulatory Guide 1.147, Rev. 13. This acceptance provides an acceptable basis for the alternative to the NDE requirements under NB-5245.

Alternative to Code Case N-638

The licensee's proposed alternative to the Code Case N-638 requirement that a surface examination and UT examination be performed on the five-inch band of base material surrounding the weld pad after the weld has been at ambient temperature for 48 hours was discussed. The alternative is to eliminate the UT and perform an MT examination of the five-inch band around the pad and a PT examination at the junction of the pad and base material. The NRC staff concludes that the UT examination of the base material surfaces would not provide as meaningful results as the PT and MT examinations proposed by the licensee. In addition, the licensee indicated the UT of the deposited pad will provide adequate assurance that the deposited pad is structurally sound.

In a supplemental letter dated July 3, 2003, the licensee stated that the zero degree UT technique and procedure used to examine the BMI repair/replacement weld pad and base material below the weld pad has been qualified by Framatome on welded qualification blocks fabricated from Inconel weld metal and carbon steel base material. These search units were qualified by finding flat bottom holes 3/32 inch in diameter at a variety of metal paths representative of the weld pad. In the same letter, the licensee indicated that a review of the construction records indicated that no laminar type defects were identified by UT in the areas surrounding the BMI holes. This is acceptable to the NRC staff because the search units were qualified using metal pads representation of the weld pad.

Based on this information, the NRC staff concludes that the licensee's proposal to perform MT and PT on the five-inch band of base material provides adequate assurance of structural integrity and safety. Furthermore, the post-repair UT examination will provide adequate assurance that the area under the deposited weld pad is structurally sound, and is therefore acceptable.

The staff notes that the licensee, by letter dated June 19, 2003, identified an alternative to Code Case N-638, Paragraph 2.1(a). The NRC staff has determined that the Code Case alternative associated with Paragraph 2.1(a) is not necessary since the alternative is well within the parameters detailed in the Code Case.

4.0 Conclusion

The NRC staff concludes that the licensee's proposed alternative to use GTAW ambient temperature temper bead welding for the repair/replacement of BMI penetrations on the RVBH during the current Unit 1 forced outage as stated in Relief Request RR-ENG-2-32 provides an acceptable level of quality and safety. The staff also concludes that the licensee's proposal to

perform MT and PT on the five-inch areas around the weld pad and post-repair UT of the area under the deposited weld pad provides an acceptable level of quality and safety. Therefore, the proposed relief is authorized pursuant to 10 CFR 50.55a(3)(i). The use of this relief request is authorized for use only for repair of the BMI penetrations on the Unit 1 reactor vessel during the current unit's forced outage.

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

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Date: August 15, 2003

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