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GNRO-2009/00018

May 29, 2009

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

Subject: Inservice Inspection (ISI) Relief Requests GG-ISI-005 through 012  
American Society of Mechanical Engineers Section XI Second 10-Year  
Inspection Interval Closeout

Grand Gulf Nuclear Station, Unit 1  
Docket No. 50-416  
License No. NPF-29

Dear Sir or Madam:

Pursuant to 10CFR50.55a(g)(5)(iii), Grand Gulf Nuclear Station (GGNS) requests relief from American Society of Mechanical Engineers (ASME) code requirements. The relief requests are associated with ISI activities performed and identified during the GGNS ASME Section XI second 10-Year Inservice Inspection Interval. The relief requests are based on limitations that preclude full code examination coverage for ASME code welds and components. Full code examination of the welds and components is limited because of design configurations. The relief requests are provided as an Enclosure.

GGNS requests that NRC provide approval in accordance with 10 CFR 50.55a(g)(6)(i). GGNS has no specific milestones or schedule for requesting NRC review and approval of the enclosed relief requests. The enclosed relief requests are being submitted solely for the closure of Grand Gulf Second 10-Year Inservice Inspection Interval that was completed on October 22, 2008 for risk informed examinations and May 31, 2008 for all other examinations. GGNS Third 10-year inspection interval started on June 1, 2008. This letter contains no commitments.

Should you have any questions regarding this submittal, please contact Ernest Rufus, Supervisor Engineering Programs at 601-437-6582.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ernest Rufus".

CLP/MJL

Enclosure: Relief Requests GG-ISI-005 through GG-ISI-012



cc: NRC Senior Resident Inspector  
Grand Gulf Nuclear Station  
Port Gibson, MS 39150

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# ENCLOSURE

to

**GNRO-2009/00018**

## RELIEF REQUESTS

GG-ISI	005	CAT. B-A, PRESSURE RETAINING WELDS IN REACTOR VESSEL
GG-ISI	006	CAT. B-D, FULL PENETRATION WELDED NOZZLES IN VESSELS
GG-ISI	007	CAT. B-F, PRESSURE RETAINING DISSIMILAR METAL WELDS IN VESSEL NOZZLES
GG-ISI	008	CAT. B-G-1, PRESSURE RETAINING BOLTING GREATER THAN 2 INCHES IN DIAMETER
GG-ISI	009	CAT. B-J, PRESSURE RETAINING WELDS IN PIPING
GG-ISI	010	CAT. B-K, INTEGRAL ATTACHMENTS FOR CLASS 1 VESSELS, PIPING, PUMPS, AND VALVES
GG-ISI	011	CAT. C-F-2, PRESSURE RETAINING WELDS IN CARBON OR LOW ALLOY STEEL PIPING
GG-ISI	012	CAT. F-A, SUPPORT OTHER THAN PIPING SUPPORTS

## RELIEF REQUEST

### GGNS-ISI-005

<b>Components/Numbers:</b>	See Table 1
<b>Code Classes:</b>	ASME Code Class 1
<b>References:</b>	ASME Section XI 1992 Edition, Table IWB-2500-1  ASME Section XI 1977 Edition with the Summer of 1979 Addenda for Ultrasonic Examinations  ASME Section XI 1995 Edition with 1996 Addenda (for Ultrasonic examinations performed after November 22, 2002)  NRC Letter dated December 12, 1996, Evaluation of Entergy Operations Inc. Request for Authorization to Update Inservice Inspection to the 92 & Portions of the 93 ASME Boiler & Pressure Vessel Code Section XI (GNRI 96-00244)  NRC Letter dated January 5, 2006, Use of Later Editions and Addenda of ASME Boiler & Pressure Vessel Code Section XI for Ultrasonic Examinations (CNRI 2006-00002)
<b>Examination Category:</b>	B-A
<b>Description:</b>	Pressure Retaining Welds in Reactor Vessel
<b>Item Number(s):</b>	B1.12, B1.22, B1.30, B1.40
<b>Unit / Inspection Interval Applicability:</b>	Grand Gulf Nuclear Station (GGNS), Second (2 <sup>nd</sup> )10-year interval June 1997 - May 2008

#### I. Code Requirement(s)

ASME Section XI, Table IWB-2500-1, Examination Category B-A, Pressure Retaining Welds in Reactor Vessel – Inspection Program B:

1. Item B1.12 - Requires a volumetric examination of Reactor Vessel Longitudinal Shell Welds.
2. Item B1.22 - Requires a volumetric examination of Meridional Welds in Reactor Vessel Heads.
3. Item B1.30 - Requires a volumetric examination of Reactor Vessel Shell to Flange Welds.
4. Item B1.40 - Requires a volumetric examination of Reactor Vessel Head to Flange Welds

During the 2<sup>nd</sup> 10-year ISI interval at GGNS, 10CFR50.55a(g)(6)(ii)(C) mandated an implementation schedule for all licensees to begin use of Appendix VIII of the 1995 Edition, with 1996 Addenda of ASME Section XI. As a result, some examinations listed in this relief request were performed prior to this implementation schedule, and were performed in accordance with, Article 4 of the 1977 Edition, through the Summer 1979 Addenda of Section V.

The methodology used to determine Code coverage for each of the components listed in this relief request, therefore, depends on which set of requirements were in effect during the examination. Where earlier Code rules were in effect, Entergy credited Code coverage for examinations using the

techniques and examination angles required at that time. After the implementation of Appendix VIII, examinations were performed using the techniques and examination angles qualified through PDI (performance demonstrated initiative) for consideration of Code coverage, in accordance with qualified PDI procedures.

## II. Requested Relief

Due to the geometric configuration and location, certain code examination volumes, as depicted in ASME Section XI, cannot be examined to the extent of obtaining full code coverage. Pursuant to 10CFR50.55a(g)(5)(iii), Entergy Operations, Inc. (Entergy) requests permission to perform ultrasonic examination within the limitations described in Table 1 of this relief request.

Table 1, Limited B-A Examinations				
Item Number	Comp. ID	Item Description	% Coverage	Reason for Limitation
B1.12	BJ	RPV Longitudinal Shell Weld	App. VIII 86%	Examination coverage is limited in two locations along the length, due to the close proximity of core spray nozzles N5B (8.25" away) and Control Rod Drive (CRD) nozzle N6C (6" away).
B1.22	DA	RPV Meridional Bottom Head Weld	Pre- App. VIII 44.4%	Examinations are on the bottom head and are physically limited due to the location of CRD tubes and the Support Skirt.
B1.22	DB	RPV Meridional Bottom Head Weld	Pre- App. VIII 44.4%	Examinations are on the bottom head and are physically limited due to the location of CRD tubes and the Support Skirt
B1.22	DC	RPV Meridional Bottom Head Weld	Pre- App. VIII 17.2%	Examinations are on the bottom head and are physically limited due to the location of CRD tubes and the Support Skirt
B1.22	DD	RPV Meridional Bottom Head Weld	Pre- App. VIII 17.2%	Examinations are on the bottom head and are physically limited due to the location of CRD tubes and the Support Skirt
B1.30	AE	RPV Shell to Flange Weld	Not covered by App. VIII 75%	Weld is only accessible from the shell side and the flange configuration causes restricted access.
B1.40	AG	RPV Head to Flange Weld	Not covered by App. VIII 77.2%	Weld is only accessible from the Head side and the flange configuration causes restricted access.

## III. Basis for Relief

During ultrasonic examination of the Pressure Retaining Reactor Vessel Welds listed in Table 1 of this relief request, 100% coverage of the required examination volume could not be obtained.

Component BJ was subjected to the requirements of Appendix VIII, Supplement 4 and 6. The weld configuration and the close proximity of the CRD nozzle and core spray nozzle resulted in scan limitations, which cannot be overcome by adding additional examination angles. As a result, the technique and angles, demonstrated through PDI, were not capable of achieving the Code required examination volume.

Components DA through DD were not subjected to the requirements of Appendix VIII as they were examined prior to November 20, 2000. The weld configuration, the location in relation to RPV Skirt and the CRD tubes resulted in scan limitations, which cannot be overcome by adding additional examination angles. As a result, the use of 45°S (shear), 60°S, and 0°L (Longitudinal) beam angles in the axial direction, and 45°S and 60°S beam angles in the circumferential direction, were not capable of

achieving the Code required examination volume. The procedure used for these examinations was written to the requirements of Article 4 of Section V.

Component AE and AG are not covered by Appendix VIII, per Article I, I-2110(a), therefore were not subjected to the exam requirements of Appendix VIII. As a result, the use of 45°S, 60°S, and 0°L beam angles in the axial direction, and 45°S and 60°S beam angles in the circumferential direction, were not capable of achieving the Code required examination volume due to the component configuration and location of these welds. The procedure used for these examinations was written to the requirements of Article 4 of Section V.

Radiography is not practical on these types of weld configurations, which prevents placement of the film and exposure source.

#### **IV. Proposed Alternative Examinations**

No alternative testing is proposed at this time. Entergy has examined these welds to the extent practical and will continue to perform pressure testing on the subject welds as required by the Code.

#### **V. Conclusion**

10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

Entergy believes that it is impractical to obtain greater examination coverage on these welds. The examinations performed on the subject welds in addition to the examination of similar welds contained in the program would detect generic degradation, if it existed, demonstrating an acceptable level of integrity. Therefore, we request the proposed relief be authorized pursuant to 10CFR50.55a(g)(6)(i).

These limitations existed during the first 10-year ISI Interval and relief was granted in Relief Request I-00015, Rev. 2 as submitted via a letter (GNRO 96-00057) to the NRC dated May 21, 1996, ASME Section XI Relief Requests.

## RELIEF REQUEST

### GGNS-ISI-006

<b>Components/Numbers:</b>	See Table 1
<b>Code Classes:</b>	ASME Code Class 1
<b>References:</b>	ASME Section XI 1992 Edition, Table IWB-2500-1  ASME Section XI 1977 Edition with the Summer of 1979 Addenda for Ultrasonic Examinations  ASME Section XI 1995 Edition with 1996 Addenda (for Ultrasonic examinations performed after November 22, 2002)  NRC Letter December 12, 2006, Evaluation of Entergy Operations Inc. Request for Authorization to Update Inservice Inspection Program to the 92 & Portion of the 93 ASME Boiler & Pressure Vessel Code Section XI (GNRI-96-00244)  NRC Letter dated January 5, 2006, Use of Later Editions and Addenda of ASME Boiler & Pressure Vessel Code Section XI for Ultrasonic Examinations(CNRI- 2006-00002)
<b>Examination Category:</b>	B-D
<b>Description:</b>	Full Penetration Welded Nozzles in Vessels
<b>Item Number:</b>	B3.90
<b>Unit / Inspection Interval Applicability:</b>	Grand Gulf Nuclear Station (GGNS), Second (2 <sup>nd</sup> )10-year interval June 1997 - May 2008

#### I. Code Requirement(s)

ASME Section XI, Table IWB-2500-1, Examination Category B-D, Full Penetration Welded Nozzles in Vessels – Inspection Program B:

1. Item B3.90 - Requires a volumetric examination of Reactor Vessel Nozzle-to-Vessel Welds.

During the 2<sup>nd</sup> 10-year ISI interval at GGNS, 10CFR50.55a(g)(6)(ii)(C) mandated an implementation schedule for all licensees to begin use of Appendix VIII of the 1995 Edition, with 1996 Addenda of ASME Section XI. As a result, some examinations listed in this relief request were performed prior to this implementation schedule, and were performed in accordance with Article 4 of the 1977 Edition, through the Summer 1979 Addenda of Section V.

The methodology used to determine Code coverage for each of the components listed in this relief request depends on which set of requirements were in effect at the time of the examination. Where earlier Code rules were in effect, Entergy credited Code coverage for examinations using the techniques and examination angles required at that time. After the implementation of Appendix VIII, examinations were performed using the techniques and examination angles qualified through PDI for

consideration of Code coverage, in accordance with qualified PDI procedures. In addition to utilizing these qualified techniques and procedures, Entergy employed EPRI to perform computer modeling on each of the nozzle configurations to ensure maximum coverage. These differences are reflected in the coverage percentages listed in Table 1, along with a notation of "Pre-App. VIII" or "App. VIII" for each applicable component, as an indicator of which rules were applied.

**II. Requested Relief**

Due to the geometric configuration of the nozzle-to-vessel welds listed below, certain code examination volumes, as depicted in ASME Section XI, cannot be examined to the extent of obtaining full code coverage. Pursuant to 10CFR50.55a(g)(5)(iii), Entergy Operations, Inc. (Entergy) requests permission to perform ultrasonic examination within the limitations described in Table 1 of this relief request.

<b>Item Number</b>	<b>Comp. ID</b>	<b>Item Description</b>	<b>% Coverage</b>	<b>Reason for Limitation</b>
B3.90	N01B-KA	24" Recirculation Outlet Nozzle to Shell	Pre-App. VIII  50.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02B-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02C-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02D-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02E-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02F-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02G-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02H-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N02J-KA	12" Recirculation Inlet Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N03A-KA	24" Main Steam Nozzle to Vessel	Pre- App. VIII  60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.



Table 1, Limited B-D Examinations

Item Number	Comp. ID	Item Description	% Coverage	Reason for Limitation
B3.90	N03B-KA	24" Main Steam Nozzle to Vessel	Pre- App. VIII 60.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N04A-KA	14" Feedwater Nozzle to Vessel	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N04B-KA	14" Feedwater Nozzle to Vessel	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N04C-KA	14" Feedwater Nozzle to Vessel	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N04D-KA	14" Feedwater Nozzle to Vessel	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N05A-KA	Core Spray Nozzle to Vessel	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N06A-KA	12" RHR/LPCI Inlet Nozzle	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N06B-KA	12" RHR/LPCI Inlet Nozzle	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N06C-KA	12" RHR/LPCI Inlet Nozzle	Pre- App. VIII 58.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N07-KA	15.5" RCIC Top Head Spray Inlet Nozzle	Pre- App. VIII 62.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N08-KA	15.5" RCIC Top Head Spray Inlet Nozzle	Pre- App. VIII 62.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N09A-KA	12" Instrument Nozzle to Shell	Pre- App. VIII 59.0%	Due to nozzle taper, weld could only be examined from vessel side. 0°, 45°S and 60°S (axial and circ directions) were used for scanning, where accessible.
B3.90	N01A-KA	24" Recirculation Outlet Nozzle to Shell	App. VIII 76.0%	Scanning limited due to close proximity of nozzle transition. 60°RL (Refracted Longitudinal) used (axial and circ directions) per procedure. In addition 45°S (+90°/-90° Skew) from Blend and 50°S± (60° to 80° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N02A-KA	12" Recirculation Inlet Nozzle to Vessel	App. VIII 70.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+90°/-90° Skew) from Blend and 50°S± (52° to 76° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N02K-KA	12" Recirculation Inlet Nozzle to Vessel	App. VIII 70.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+90°/-90° Skew) from Blend and 50°S± (52° to 76° Skew) from vessel used for examination per EPRI Modeling.

Table 1, Limited B-D Examinations

Item Number	Comp. ID	Item Description	% Coverage	Reason for Limitation
B3.90	N02M-KA	12" Recirculation Inlet Nozzle to Vessel	App. VIII 70.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+90°/-90° Skew) from Blend and 50°S± (52° to 76° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N02N-KA	12" Recirculation Inlet Nozzle to Vessel	App. VIII 70.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+90°/-90° Skew) from Blend and 50°S± (52° to 76° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N03C-KA	24" Main Steam Nozzle to Vessel	App. VIII 75.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 45°S (+90°/-90° Skew) from Blend and 50°S± (59° to 80° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N03D-KA	24" Main Steam Nozzle to Vessel	App. VIII 75.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 45°S (+90°/-90° Skew) from Blend and 50°S± (59° to 80° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N04E-KA	14" Feedwater Nozzle to Vessel	App. VIII 72.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+90°/-90° Skew) from Blend and 50°S± (55° to 78° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N05B-KA	Core Spray Nozzle to Vessel	App. VIII 73.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+90°/-90° Skew) from Blend and 50°S± (55° to 78° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N04F-KA	14" Feedwater Nozzle to Vessel	App. VIII 72.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+90°/-90° Skew) from Blend and 50°S± (55° to 78° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N09B-KA	12" Instrument Nozzle to Shell	App. VIII 77.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 50°S± (13° to 65° Skew) from vessel and 60°S± (5° to 21° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N10-KA	CRD Nozzle to Shell	App. VIII 72.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+50°/-50° Skew) from Blend and 50°S± (27° to 80° Skew) from vessel used for examination per EPRI Modeling.
B3.90	N16-KA	Instrument Nozzle to Shell	App. VIII 77.0%	Scanning limited due to close proximity of nozzle transition. 60°RL used (axial and circ directions) per procedure. In addition 35°S (+50°/-50° Skew) from Blend and 50°S± (25° to 70° Skew) from vessel used for examination per EPRI Modeling.

**III. Basis for Relief**

During ultrasonic examination of the Reactor Vessel nozzle-to-vessel welds listed in Table 1 of this relief request, 100% coverage of the required examination volume could not be obtained.

Components N01B-KA through N09A-KA were not subjected to the requirements of Appendix VIII as they were examined prior to November 22, 2002, the implementation date specified for Supplement 7. The weld configuration and the close proximity of the nozzle taper resulted in geometric scan limitations, which cannot be overcome by adding additional examination angles. As a result, the use of 45°S, 60°S, and 0°L beam angles in the axial direction, and 45°S and 60°S beam angles in the circumferential direction, were not capable of achieving the Code required examination volume.

Components N1A-KA through N16-KA were subjected to the requirements of Appendix VIII. The procedure used for these examinations has been demonstrated for the detection of flaws at EPRI in accordance with the requirements of Appendix VIII. In accordance with this procedure 60° refracted longitudinal (RL) wave examinations were performed in both the axial (radial) and circumferential scan directions. Additional examinations were performed in accordance with another qualified procedure and EPRI modeling was performed for each of these nozzle configurations. This scanning was performed from both the vessel shell and nozzle blend, where accessible. As a result, the use of 60°RL beam angle in the axial and circ directions, and the additional beam angles required by the EPRI modeling, were not capable of achieving the Code required examination volume.

Radiography is not practical on these types of nozzle-to-vessel weld configurations, which prevent placement of the film and exposure source. To perform any additional Code allowable UT examination, modification and/or replacement of the component would be required. The examinations performed on the subject items in addition to the examination of other vessel welds contained in the ISI program would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity.

**IV. Proposed Alternative Examinations**

No alternative testing is proposed at this time. Entergy has examined these welds to the extent practical and will continue to perform pressure testing on the subject welds as required by the Code.

**V. Conclusion**

10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

Entergy believes that it is impractical to obtain greater examination coverage on these welds. To obtain additional coverage would necessitate modification and/or replacement of the component. The examinations performed on the subject welds in addition to the examination of similar welds contained in the program would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity. Therefore, we request the proposed relief be authorized pursuant to 10CFR50.55a(g)(6)(i).

These limitations existed during the first Inspection Interval and relief was granted in Relief Request I-00015, Rev. 2 as submitted via a letter (GNRO 96-00057) to the NRC dated May 21, 1996, ASME Section XI Relief Requests.

## RELIEF REQUEST

GGNS-ISI-007

<b>Components/Numbers:</b>	See Table 1
<b>Code Classes:</b>	ASME Code Class 1
<b>References:</b>	ASME Section XI 1992 Edition, Table IWB-2500-1  ASME Section XI 1995 Edition with 1996 Addenda (for Ultrasonic examinations performed after November 22, 2002)  NRC Letter dated June 27, 2008, Relief Request GGNS-ISI-004 to Extending the Inservice Inspection Interval (TAC NO. MD7477) (GNRI2008-00065)
<b>Examination Category:</b>	B-F
<b>Description:</b>	Pressure Retaining Dissimilar Metal Welds in Vessel Nozzles
<b>Item Number:</b>	B5.10
<b>Unit / Inspection Interval Applicability:</b>	Grand Gulf Nuclear Station (GGNS), Second (2 <sup>nd</sup> ) 10-year interval June 1997 - October 2008

### I. Code Requirement(s)

ASME Section XI, Table IWB-2500-1, Examination Category B-F, Pressure Retaining Dissimilar Metal Welds in Vessel Nozzles:

1. Items B5.10 - Requires 100% volumetric examination of the Class 1 NPS 4 or Larger Nozzle-to-Safe End Butt Welds.

During the 2<sup>nd</sup> 10-year ISI interval at GGNS, 10CFR50.55a(g)(6)(ii)(C) mandated an implementation schedule for all licensees to begin use of Appendix VIII of the 1995 Edition, with 1996 Addenda of ASME Section XI. After the implementation of Appendix VIII, only 1/2 Vee path examinations have been allowed to be used in austenitic materials, in accordance with qualified PDI procedures. Additional discussion, as to the examination coverage determination process when using Appendix VIII techniques on single-sided austenitic welds, is provided in Section III of this relief request.

**II. Requested Relief**

Pursuant to 10CFR50.55a(g)(5)(iii), Entergy Operations, Inc. (Entergy) requests relief from achieving greater than 90% coverage as allowed by Code Case N-460, when performing volumetric examinations on the following welds.

Table 1, Limited B-F Examinations				
Item Number	Comp. ID	Item Description	% Coverage	Reason for Limitation
B5.10	N01A-KB	24" Recirculation Nozzle-to-Safe End, SS	75.6%	Surface concavity limited Axial and Circ scanning in two areas for a total of 34.5". Scanned from Safe End side only. 45°S, 45°L and 60°RL used for scanning, where accessible.
B5.10	N02K-KB	14" Recirculation Nozzle-to-Safe End, SS	77.3%	Surface concavity limited Axial and Circ scanning for 18.25". Scanned from Safe End side only. 40°RL, 45°S, 45°RL and 60°RL used for scanning, where accessible.

**III. Basis for Relief**

During ultrasonic examination of the piping welds listed in Table 1 of this relief request, 100% coverage of the required examination volume could not be obtained.

Class 1 piping and components are often designed with welded joints such as nozzle-to-pipe, pipe-to-valve and pipe-to-pump which can physically obstruct a large portion of the required examination volume. For the welds listed in Table 1 (above), the examinations were performed after the 10CFR50.55a mandatory implementation date (November 22, 2002) for Appendix VIII of Section XI. The provided code coverage percentages reflect what is currently allowed by qualified Appendix VIII techniques. Appendix VIII qualified (PDI) procedures have demonstrated that sound beams may potentially be attenuated and distorted when required to pass through austenitic weld metal. Still, the PDI qualified methods employ the best available technology for maximizing examination coverage of these types of welds. For the components listed in this relief request, examination was extended to the far side of the weld to the extent permitted by geometry as qualified through PDI.

Entergy has used the best available techniques to examine the subject piping welds. To improve upon these examination coverage percentages, modification and/or replacement of the component would be required. Consistent with the ASME Section XI sampling approach, examination of the subject welds, when combined with examinations that have been performed on other welds within the same Examination Category, is adequate to detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity.

**IV. Proposed Alternative Examinations**

No alternative testing is proposed at this time. Entergy has examined the subject welds to the extent practical and will continue to perform pressure testing on the subject welds as required by the Code.

Entergy will use pressure test and VT-2 visual examination to compliment the limited examination coverage after each refueling outage.

V. **Conclusion**

10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

Entergy believes that it is impractical to obtain greater examination coverage on these areas. To obtain additional coverage would necessitate modification and/or replacement of the component. The examinations performed on the subject areas, in addition to the examination of similar welds contained in the program would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity. Therefore, we request the proposed relief be authorized pursuant to 10CFR50.55a(g)(6)(i).

**RELIEF REQUEST**

**GGNS-ISI-008**

**Components/Numbers:** See Table 1

**Code Classes:** ASME Code Class 1

**References:** ASME Section XI 1992 Edition, Table IWB-2500-1  
ASME Section XI 1977 Edition with the Summer of 1979 Addenda for ultrasonic examinations  
NRC Letter December 12, 2006, Evaluation of Entergy Operations Inc. Request for Authorization to Update Inservice Inspection Program to the 92 & Portion of the 93 ASME Boiler & Pressure Vessel Code Section XI (GNRI-96-00244)

**Examination Category:** B-G-1

**Description:** Pressure Retaining Bolting, Greater Than 2 Inches In Diameter

**Item Number:** B6.40

**Unit / Inspection Interval Applicability:** Grand Gulf Nuclear Station (GGNS), Second (2<sup>nd</sup>) 10-year interval June 1997 - May 2008

**I. Code Requirement(s)**

ASME Section XI, Table IWB-2500-1, Examination Category B-G-1, Pressure Retaining Bolting, Greater Than 2 inches in Diameter:

1. Item B6.40 - Requires a volumetric examination of the Reactor Vessel, Threads in Flange stud hole and one inch of base material around the hole for a depth equal to the diameter of the stud. The examinations are to be performed once per interval.

**II. Relief Requested**

Due to the geometric configuration of the threaded area in the upper Reactor Pressure Vessel (RPV) flange, the code examination volume, as depicted in ASME Section XI, cannot be examined to the extent of obtaining full code coverage. Pursuant to 10CFR50.55a(g)(6)(i), Entergy Operations, Inc. (Entergy) requests permission to perform ultrasonic examination within the limitations described in Table 1 of this relief request.

<b>Table 1, Limited B-G-1 Examinations</b>				
<b>Item Number</b>	<b>Component ID</b>	<b>Item Description</b>	<b>% Coverage</b>	<b>Reason for Limitation</b>
B6.40	FLG LIG 1 through FLG LIG 76	Reactor Vessel Threads-in-Flange	86.6%	Scanning obstructed between 333° and 27° due to the raised seal face configuration. Scanning performed with 0°L, where accessible. See Figure 1.

### III. Basis for Relief

During ultrasonic examination of the threaded area in the upper Reactor Vessel flange, 100% coverage of the required examination volume could not be obtained.

A 0° Ultrasonic examination of threaded flange is required to be performed on the adjacent 1" area around the RPV stud hole. This scan is limited to approximately 85% around the circumference of each stud hole due to the RPV head raised seal surface. This exam is not covered by Appendix VIII.

Radiography is not practical due to the component configuration, which prevents effective placement of the film and exposure source. To perform any additional Code allowable ultrasonic examination, modification and/or replacement of the component would be required. The examination of 86.6% of the required volume of the subject items would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity.

### IV. Proposed Alternative Examinations

No alternative testing is proposed at this time. Entergy has examined the subject items to the extent practical and will continue to perform pressure testing on the subject areas as required by the Code.

### V. Conclusion

10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

The RPV, including the flange assembly, is subject to a pressure test in accordance with ASME Section XI, Table IWB-2500-1.

The entire code volume around the stud hole is examined except for the area associated with the sealing surface. This area is examined for a distance of 1/2" from the stud hole where the sealing surface is encountered. With the RPV Head in place and fastened with the studs to the RPV shell flange, the seal surface and underlying material is subjected to compressional loads.

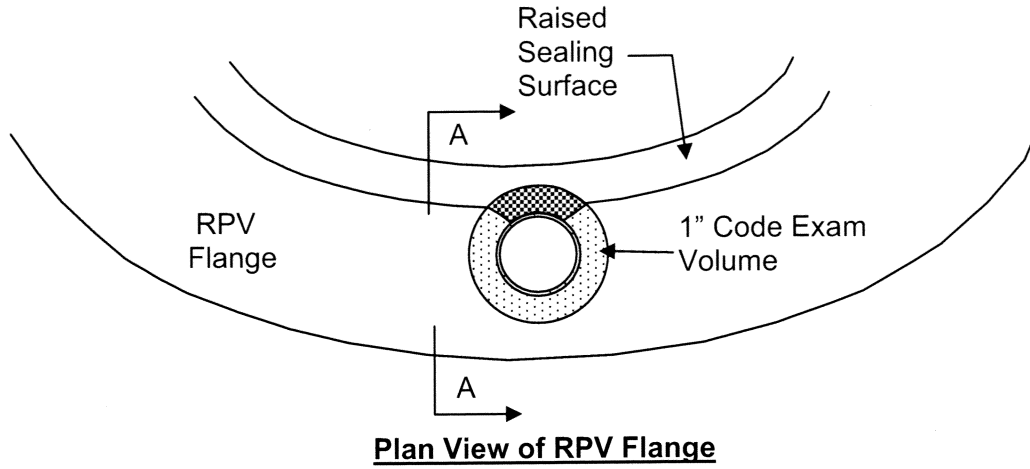
The amount of obtained volumetric coverage that includes the bounded area is adequate to ensure structural integrity of the stud hole regions of the RPV flange.


Entergy believes that it is impractical to obtain greater examination coverage on these areas. To obtain additional coverage would necessitate modification and/or replacement of the component. The examinations performed on the subject areas would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity. Therefore, we request the proposed alternative be authorized pursuant to 10CFR50.55a(g)(6)(i).


Relief was granted for this examination during the first Interval in Relief Request I-00019, Rev. 1 as submitted via a letter (GNRO 96-00057) to the NRC dated May 21, 1996, ASME Section XI Relief Requests.

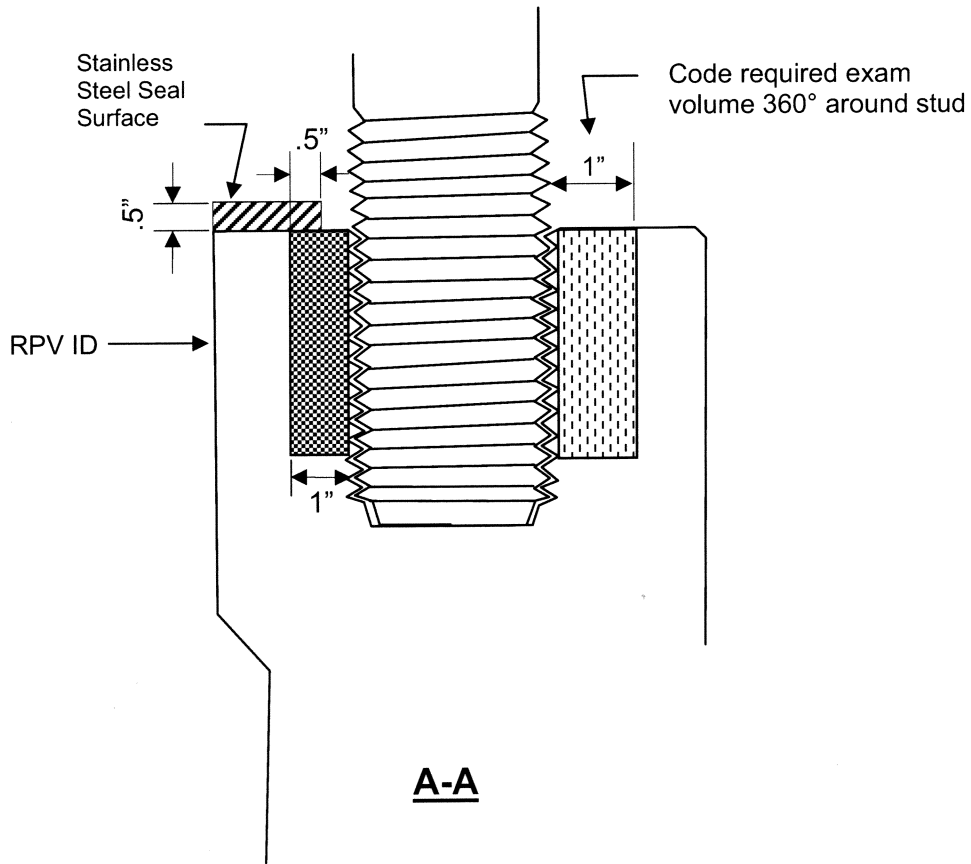


Figure 1



 Unable to scan the full 1" of Code required volume

 Area scanned



**RELIEF REQUEST**  
**GGNS-ISI-009**

<b>Components/Numbers:</b>	See Table 1
<b>Code Classes:</b>	ASME Code Class 1
<b>References:</b>	ASME Section XI 1992 Edition, Table IWB-2500-1  ASME Section XI 1977 Edition with Summer 1979 Addenda  ASME Section XI 1995 Edition with 1996 Addenda (for ultrasonic examinations performed after May 22, 2000)  NRC Letter dated December 12, 1996, Evaluation of Entergy Operations Inc. Request for Authorization to Update Inservice Inspection Program to the 1992 & Portion of the 1993 ASME Boiler & Pressure Vessel Code Section XI (GNRI 96-00244)  NRC Letter dated February 13, 2007, Request For Alternative GG-ISI-003 RE: Extending the Current Inservice Inspection Interval in Accordance with U.S. Nuclear Regulatory Commission Information Notice 98-44 (TAC NO. MD3167) (CNRI2007-00004)
<b>Examination Category:</b>	B-J
<b>Description:</b>	Pressure Retaining Welds in Piping
<b>Item Number(s):</b>	B9.11, B9.31
<b>Unit / Inspection Interval Applicability:</b>	Grand Gulf Nuclear Station (GGNS), Second (2 <sup>nd</sup> ) 10-year interval June 1997 - October 2008

**I. Code Requirement(s)**

ASME Section XI, Table IWB-2500-1, Examination Category B-J, Pressure Retaining Welds in Piping – Inspection Program B:

1. Item B9.11 – Requires a volumetric examination of Circumferential Welds NPS 4 or Larger
2. Item B9.31 - Requires a volumetric examination of Branch Pipe Connection Welds NPS 4 or Larger

During the 2<sup>nd</sup> 10-year ISI interval at GGNS, 10CFR50.55a(g)(6)(ii)(C) mandated an implementation schedule for all licensees to begin use of Appendix VIII of the 1995 Edition, with 1996 Addenda of ASME Section XI. As a result, the examinations listed in this relief request were performed utilizing procedures written in accordance with the PDI Generic UT Procedures and Appendix VIII. With the implementation of Appendix VIII, only 1/2 Vee path examinations have been allowed to be used in austenitic materials, and angle beams are no longer credited to extend beyond the centerline of austenitic welds for consideration of Code coverage, in accordance with qualified PDI procedures. Additional discussion, as to the examination coverage determination process when using Appendix VIII techniques on single-sided austenitic welds, is provided in Section III of this relief request.

**II. Requested Relief**

Pursuant to 10CFR50.55a(g)(5)(iii), Entergy Operations, Inc. (Entergy) requests relief from achieving greater than 90% coverage as allowed by Code Case N-460, when performing volumetric examinations on the following welds.

<b>Table 1, Limited B-J Examinations</b>				
<b>Item Number</b>	<b>Comp. ID</b>	<b>Item Description</b>	<b>% Coverage</b>	<b>Reason for Limitation</b>
B9.11	B33G001-W34	24" RCS Pipe to Cross, SS	Pre App. VIII 50.0%	Single side exam due to configuration (pipe to cross). Scanned from pipe side only. 45°S, 60°S and 60°RL used for scanning, where accessible.
B9.11	B33G10-B1-A	16" RCS Pipe to Cross, SS	Pre App. VIII 50.0%	Single side exam due to configuration (pipe to cross). Scanned from pipe side only. 45°S, 60°S and 60°RL used for scanning, where accessible.
B9.11	B33G10-B1-B	16" RCS Pipe to Cross, SS	Pre App. VIII 50.0%	Single side exam due to configuration (pipe to cross). Scanned from pipe side only. 45°S, 60°S and 60°RL used for scanning, where accessible.
B9.11	E51G001-W40	6" RCIC Valve to Elbow, CS	App. VIII 60.0%	Single side exam due to configuration (elbow to valve). Scanned from elbow side only. Used 45°S and 70°S to scan with per the procedure. Because of the tight radius of the elbow, 8.4" was not scanned due to lift off resulting in 60% Bi-directional coverage of the required exam volume utilizing the 70°S.
B9.31	B33G10-B1-H	12" RCS Sweep-o-let to Pipe, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to sweep-o-let). Scanned from pipe side only. 45°S and 60°RL used for scanning, where accessible.
B9.31	B33G10-B1-G	12" RCS Sweep-o-let to Pipe, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to sweep-o-let). Scanned from pipe side only. 45°S and 60°RL used for scanning, where accessible.
B9.31	B33G10-B1-F	12" RCS Sweep-o-let to Pipe, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to sweep-o-let). Scanned from pipe side only. 45°S and 60°RL used for scanning, where accessible.
B9.11	B33G001-W20	12" RCS Pipe to Tee, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to sweep-o-let). Scanned from pipe side only. 45°S and 60°RL used for scanning, where accessible.
B9.11	B33G001-W22	12" RCS Pipe to Tee, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to sweep-o-let). Scanned from pipe side only. 45°S and 60°RL used for scanning, where accessible.
B9.11	B33G001-W33	12" RCS Valve to Pipe, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to cross). Scanned from pipe side only. 45°S and 45°RL used for scanning, where accessible.
B9.11	1B33G10-A1-B	24" Pipe to Cross, SS	App. VIII 50.0%	Single side exam due to configuration (valve to pipe). Scanned from pipe side only. 45°S, 60°S and 45°RL used for scanning, where accessible.
B9.11	1B33G001W11	24" Pipe to Tee, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to tee). Scanned from pipe side only. 45°S and 45°RL used for scanning, where accessible.
B9.11	1B33G10-A1-A	24" Pipe to Cross, SS	App. VIII 50.0%	Single side exam due to configuration (pipe to cross). Scanned from pipe side only. 45°S and 45°RL used for scanning, where accessible.
B9.31	1B33G10-A1-F	12" RCS Branch, SS	App. VIII 83.0%	Scanning limited to 66% of the circumference on the branch fitting side of the weld (100% on pipe side), due to branch configuration. 45°S, 45°RL and 60°RL used for scanning, where accessible.

**Table 1, Limited B-J Examinations**

Item Number	Comp. ID	Item Description	% Coverage	Reason for Limitation
B9.31	1B33G10 -A1-G	12" RCS Branch, SS	App. VIII 83.0%	Scanning limited to 66% of the circumference on the branch fitting side of the weld (100% on pipe side), due to branch configuration. 45°S, 45°RL and 60°RL used for scanning, where accessible.
B9.31	1B33G10 -A1-H	12" RCS Branch, SS	App. VIII 83.0%	Scanning limited to 66% of the circumference on the branch fitting side of the weld (100% on pipe side), due to branch configuration. 45°S, 45°RL and 60°RL used for scanning, where accessible.

**III. Basis for Relief**

During ultrasonic examination of the piping welds listed in Table 1 of this relief request, 100% coverage of the required examination volume could not be obtained.

Class 1 piping and components are often designed with welded joints such as nozzle-to-pipe, pipe-to-valve and pipe-to-pump which can physically obstruct a large portion of the required examination volume. For the welds listed in Table 1 (above), the examinations were performed after the 10CFR50.55a mandatory implementation date (November 22, 2002) for Appendix VIII of Section XI. The provided code coverage percentages reflect what is currently allowed by qualified Appendix VIII techniques. Appendix VIII qualified (PDI) procedures have demonstrated that sound beams may potentially be attenuated and distorted when required to pass through austenitic weld metal. Still, the PDI qualified methods employ the best available technology for maximizing examination coverage of these types of welds. For all the components listed in this relief request, examination was extended to the far side of the weld to the extent permitted by geometry, but this portion of the examination is not included in the reported coverage for welds examined under PDI and Appendix VIII rules.

Entergy has used the best available techniques to examine the subject piping welds. To improve upon these examination coverage percentages, modification and/or replacement of the component would be required. Consistent with the ASME Section XI sampling approach, examination of the subject welds, when combined with examinations that have been performed on other welds within the same Examination Category, is adequate to detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity.

**IV. Proposed Alternative Examinations**

No alternative testing is proposed at this time. Entergy has examined the subject welds to the extent practical and will continue to perform pressure testing on the subject welds as required by the Code.

Entergy will use hydrostatic pressure testing and VT-2 visual examinations to compliment the limited examination coverage after each refueling outage.

V. **Conclusion**

10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

Entergy believes that it is impractical to obtain greater examination coverage on these areas. To obtain additional coverage would necessitate modification and/or replacement of the component. The examinations performed on the subject areas, in addition to the examination of similar welds contained in the program would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity. Therefore, we request the proposed relief be authorized pursuant to 10CFR50.55a(g)(6)(i).

**RELIEF REQUEST**  
**GGNS-ISI-010**

**Components/Numbers:** See Table 1

**Code Classes:** ASME Code Class 1

**References:** ASME Section XI 1992 Edition, Table IWB-2500-1

**Examination Category:** B-K

**Description:** Integral Attachments for Class 1 Vessels, Piping, Pumps, and Valves

**Item Number(s):** B10.10, B10.20

**Unit / Inspection Interval Applicability:** Grand Gulf Nuclear Station (GGNS), Second (2<sup>nd</sup>) 10-year interval June 1997 - May 2008

**I. Code Requirement(s)**

ASME Section XI, Table IWB-2500-1, Examination Category B-K, Integral Attachments for Class 1 Vessels, Piping, Pumps, and Valves:

1. Item B10.10 - Requires a surface examination, of Pressure Vessel Integrally Welded Attachments.
2. Item B10.20 - Requires a surface examination, of Piping Integrally Welded Attachments.

Figure IWB-2500-13, 14, and 15 show the surface exam volume to be areas A-B and C-D.

**II. Requested Relief**

Pursuant to 10CFR50.55a(g)(6)(i), Entergy Operations, Inc. (Entergy) requests permission to perform surface examination within the limitations described in Table 1 of this relief request.

<b>Table 1, Limited B-K Examinations</b>				
<b>Item Number</b>	<b>Comp. ID</b>	<b>Item Description</b>	<b>% Coverage</b>	<b>Reason for Limitation</b>
B10.10	CG	RPV Support Skirt Attachment Weld	50.0%	Access is available only from outside of the RPV Skirt. Only the A-B area was examined
B10.20	1B21G11-D1-P	Attachment Weld	32.0%	Box support on pipe only allowed access for a very limited portion of the weld crown and downstream pipe side of the required examination surface.

**III. Basis for Relief**

During surface examination of both the RPV Skirt weld and pipe support integral attachment weld, 100% coverage of the required examination area could not be obtained.

The configuration of "CG", the Support Skirt Weld, is such that access is only available from the outside surface of the support leaving half of the exam volume inaccessible; refer to Figure IWB-2500-13, 14, and 15 for exam volume. The later Edition of the ASME Code recognizes this and only requires the examination from the accessible surface.

The configuration of 1B21G11-D1-P is four steel lugs evenly spaced around the pipe and integrally welded in place. The lugs are located within a box-type pipe support that is structurally anchored to a wall, serving to restrain the pipe from horizontal motion. Code examination of this type of integral attachment weld requires a surface examination technique, such as Liquid Dye Penetrant or Magnetic Particle Testing, of the weld crown surface and 1/2 inch of base material on either side of the weld toes. However, due to the configuration of this integral attachment, and associated pipe support, access to the weld and surrounding base material, for examination, is very limited.

In order to perform any type of additional Code examination, modification and/or replacement of the component would be required.

**IV. Proposed Alternative Examinations**

No alternative testing is proposed at this time. Entergy has examined the subject item to the extent practical.

**V. Conclusion**

10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

Entergy believes that it is impractical to obtain greater examination coverage on this item. To obtain additional coverage would necessitate modification and/or replacement of the component. The examinations performed on the subject item, in addition to the examination of similar items contained in the program would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity. Therefore, we request the proposed relief be authorized pursuant to 10CFR50.55a(g)(6)(i).

Relief was granted for this examination during the first 10-year ISI Interval in Relief Request I-00010, Rev. 6 as submitted via a letter (GNRO 96-00057) to the NRC dated May 21, 1996, ASME Section XI Relief Requests.

**RELIEF REQUEST**

**GGNS-ISI-011**

**Components/Numbers:** See Table 1

**Code Classes:** ASME Code Class 2

**References:** ASME Section XI 1992 Edition, Table IWC-2500-1  
NRC Letter dated February 13, 2007, Request For Alternative GG-ISI-003  
RE: Extending the Current Inservice Inspection Interval in Accordance with  
U.S. Nuclear Regulatory Commission Information Notice 98-44 (TAC NO.  
MD3167) (CNRI2007-00004)

**Examination Category:** C-F-2

**Description:** Pressure Retaining Welds in Carbon or Low Alloy Steel Piping

**Item Number:** C5.51

**Unit / Inspection Interval Applicability:** Grand Gulf Nuclear Station (GGNS), Second (2<sup>nd</sup>) 10-year interval June 1997 - October 2008

**I. Code Requirement(s)**

ASME Section XI, Table IWC-2500-1, Examination Category C-F-2, Pressure Retaining Welds in Carbon or Low Alloy Steel Piping:

1. Item C5.51 - Requires 100% volumetric examination of Piping Welds  $\geq$  3/8 inch Nominal Wall Thickness for Piping > NPS 4, Circumferential Welds

**II. Requested Relief**

Pursuant to 10CFR50.55a(g)(5)(iii), Entergy Operations, Inc. (Entergy) requests relief from achieving greater than 90% coverage as allowed by Code Case N-460, when performing volumetric examinations on the following welds.

<b>Table 1, Limited C-F-2 Examinations</b>				
<b>Item Number</b>	<b>Comp. ID</b>	<b>Item Description</b>	<b>% Coverage</b>	<b>Reason for Limitation</b>
C5.51	1E51G004-16-8-3	8.0" RCIC, Pipe – Elbow, CS	51.0%	Scanning is completely obstructed by a permanent pipe restraint for 13.5" of the total circumference.



### III. Basis for Relief

During Ultrasonic examination of the pipe to elbow circumferential weld, 100% coverage of the required examination area could not be obtained.

The configuration of 1E51G004-16-8-3 is such that 13.5" (49%) of the 27.5" circumferential weld is located under an adjacent pipe restraint that is permanently anchored to a wall, serving to restrain the pipe from horizontal motion as illustrated in Figure 1. Code examination of this type of this weld requires a volumetric examination technique, in accordance with Appendix VIII of Section XI. This examination was performed utilizing Appendix VIII (PDI) qualified techniques, procedures, and personnel. 100% of the Code Required Volume was obtained in the accessible area.

Entergy has used the best available techniques to examine the subject piping welds. To improve upon these examination coverage percentages, modification and/or replacement of the component or restraint would be required. Consistent with the ASME Section XI sampling approach, examination of the subject weld, when combined with examinations that have been performed on other welds within the same Examination Category, is adequate to detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity.

### IV. Proposed Alternative Examinations

No alternative testing is proposed at this time. Entergy has examined the subject welds to the extent practical and will continue to perform pressure testing on the subject welds as required by the Code.

Entergy will use hydrostatic pressure testing and VT-2 visual examinations to compliment the limited examination coverage after each refueling outage.

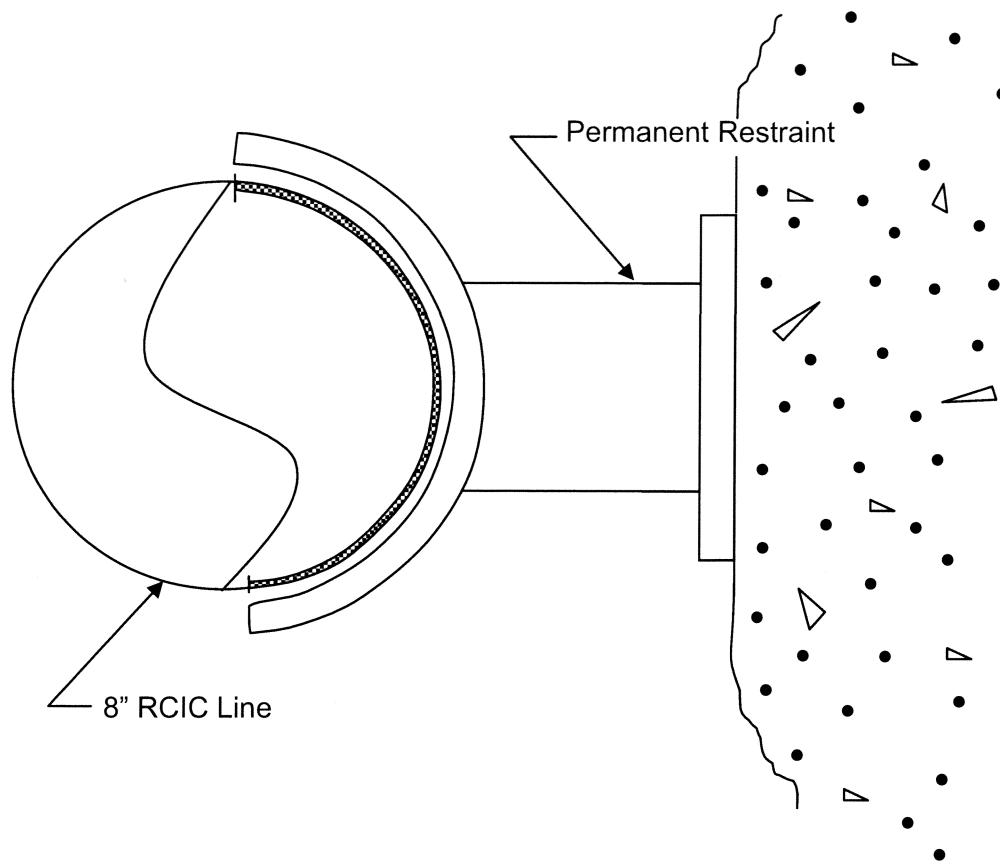
### V. Conclusion


10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

Entergy believes that it is impractical to obtain greater examination coverage on this item. To obtain additional coverage would necessitate modification and/or replacement of the component. The examinations performed on the subject item, in addition to the examination of similar items contained in the program would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity. Therefore, we request the proposed relief be authorized pursuant to 10CFR50.55a(g)(6)(i).

Figure 1



 13.5" obstructed, area not scanned,

**RELIEF REQUEST  
GGNS-ISI-012**

**Components/Numbers:** See Table 1

**Code Classes:** ASME Code Class 1

**References:** ASME Section XI 1992 Edition

**Examination Category:** F-A

**Description:** Supports Other Than Piping Supports

**Item Number:** F1.40

**Unit / Inspection Interval Applicability:** Grand Gulf Nuclear Station (GGNS), Second (2<sup>nd</sup>)10-year interval  
June 1997 - May 2008

**I. Code Requirement(s)**

ASME Section XI, Table IWF-2500-1, Examination Category F-A, Supports – Inspection Program B:  
1. Item F1.40 - Requires a Visual Examination, VT-3 of supports other than Piping Supports.

**II. Requested Relief**

Due to the geometric configuration and location, certain code examination volumes, as depicted in ASME Section XI, cannot be examined to the extent of obtaining full code coverage. Pursuant to 10CFR50.55a(g)(5)(iii), Entergy Operations, Inc. (Entergy) requests permission to perform a Visual examination within the limitations described in Table 1 of this relief request.

<b>Table 1, Limited F-A Examinations</b>				
<b>Item Number</b>	<b>Comp. ID</b>	<b>Item Description</b>	<b>% Coverage</b>	<b>Reason for Limitation</b>
F1.40	B13D003S1	RPV Support Skirt	50.0%	Support is accessible from the outside only. Visual Examinations can only be performed on one surface

**III. Basis for Relief**

During the Visual examination of the support listed in Table 1 of this relief request, 100% coverage of the required examination volume could not be obtained.

The configuration of B13D003S1, RPV Support Skirt, is such that access is only available from outside of the support leaving the inside surface inaccessible for visual examination.

**IV. Proposed Alternative Examinations**

No alternative testing is proposed at this time. Entergy has examined this weld to the extent practical.

**V. Conclusion**

10CFR50.55a(g)(6)(i) states:

The Commission will evaluate determinations under paragraph (g)(5) of this section that code requirements are impractical. The Commission may grant such relief and may impose such alternative requirements as it determines 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.

Entergy believes that it is impractical to obtain greater examination coverage on this Component. The examinations performed on the subject component would detect generic degradation, if it existed, therefore demonstrating an acceptable level of integrity. Therefore, we request the proposed relief be authorized pursuant to 10CFR50.55a(g)(6)(i).