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RBG-47005

February 18, 2010

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

**SUBJECT:** Supplement to Requests for Relief from ASME Section XI Volumetric and Visual Examination Requirements – Second 10-Year Interval  
River Bend Station  
Docket No. 50-458  
License No. NPF-47

**References**

1. Letter from Entergy dated May 28, 2009; Requests for Relief from ASME Section XI Volumetric and Visual Examination Requirements – Second 10-Year Interval, RBG-46916. (TAC ME1466, ME1469, ME1470, ME1471, and ME1472)
2. Letter from Entergy dated October 30, 2009, Supplement to Requests for Relief from ASME Section XI Volumetric and Visual Examination Requirements – Second 10-Year Interval, RBG-46968. (TAC ME1466, ME1469, ME1470, ME1471, and ME1472)

Dear Sir or Madam:

In an application dated May 29, 2009 (Reference 1) Entergy Operations, Inc. (Entergy) requested relief pursuant to 10CFR50.55a(g)(5)(iii), from American Society of Mechanical Engineers (ASME) code requirements. The relief requests are associated with ISI activities performed and identified during the River Bend Station, Unit 1 (RBS) ASME Section XI second 10-Year Inservice Inspection Interval and requested relief from the requirements of the American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel (B&PV) Code, Section XI pertaining to volumetric and surface examinations at RBS.

Based on its review of the application (Reference 1) and an associated Request for Additional Information (Reference 2), the NRC has requested additional information from that previously supplied. The requested additional information is enclosed as Attachment 1 to this letter.

This submittal contains no new commitments. If you have any questions or require additional information, please contact me.

Sincerely,

DNL/bmb

A047  
NRC

Attachments:

1. Additional information for Request for Relief RBS-ISI-007, RBS-ISI-008, RBS-ISI-009, RBS-ISI-010 and RBS-ISI-011

cc: Regional Administrator  
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**Attachment 1**

**RBG-47005**

**Additional Information for Request for Relief**

**RBS-ISI-007, RBS-ISI-008, RBS-ISI-009, RBS-ISI-010 and RBS-ISI-011**

**Additional Information for Request for Relief  
RBS-ISI-007, RBS-ISI-008, RBS-ISI-009, RBS-ISI-010 and RBS-ISI-011**

Based on its review of the application (Reference 1) and an associated Request for Additional Information (Reference 2), the NRC has requested additional information from that previously supplied.

**NRC Email dated December 14, 2009**

By letter dated May 29, 2009, (Agencywide Documents Access & Management System (ADAMS) Accession No. ML091560230), Entergy Operations, Inc. (Entergy, the licensee), submitted requests relief from the requirements of the American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel (B&PV) Code, Section XI pertaining to volumetric and visual examinations at River Bend Station, Unit 1 (RBS). In several locations, the required coverage cannot be obtained due to interference or geometry.

The NRC staff has determined that the following additional information is needed to complete its review of the subject RR for RBS.

**1.0 General Information Required on All Requests for Relief**

**NRC Question:**

- 1.1 Based on the submittal, it is unclear which Edition and Addenda of ASME Code, Section XI, is applicable to the specific components listed in the individual relief requests. For example, in RR RBS-ISI-007, Entergy lists the 1980 Edition through the 1981 Addenda, the 1992 Edition, and the 1995 Edition through the 1996 Addenda as having applicable ISI requirements for the subject components. Entergy states that the 1995 Edition through the 1996 Addenda of ASME Code was mandated for implementation of ASME Code, Section XI, Appendix VIII examinations during the interval, however, this does not clear up the multiple ASME Code applicability issues. Please confirm the ASME Code of record for the second interval inservice inspection program at RBS, how Entergy arrived at this edition/addenda of the ASME Code, and the specific requirements for each of the subject components listed in each request for relief. If the 1992 Edition was the primary ASME Code of record invoked for the second 10-year interval, confirm that no Addenda were included.

**Entergy Response:**

The Code of record invoked in the second 10 year interval is the 1992 Edition with portions of the 1993 Addenda as described in Section 2 of the Site ISI Program Section (Reference 3) and approved by the NRC (Reference 4).

NRC authorized RBS to continue performing ultrasonic examinations in accordance with the 1980 Edition with the Winter of 1981 Addenda as specified in the second interval ISI Program Section (Reference 4) until changes to 10 CFR 50.55a required the use of ASME Section XI, Appendix VIII. Authorization to use the 1995 Edition, 1996 Addenda for ultrasonic examinations performed on items not covered under Appendix VIII was granted January 5, 2006 (Reference 5). Refer to the table in Entergy response 1.3 for the applicable editions and addenda of Section XI used for each ultrasonic examination based on requirements in affect at the time of inspection.

Applicable information pertinent to this response from the second interval ISI Program Section is provided below:

## SECTION 2 LATER EDITIONS AND ADDENDA

### 4.0 1995 Edition through and Including the 1996 Addenda

- 4.1 On September 22, 1999 10 CFR 50.55a was revised mandating the implementation of the 1995 Edition, through and including the 1996 Addenda of ASME Section XI, Appendix VIII "Performance Demonstration for Ultrasonic Examination Systems". Appendix VIII is comprised of multiple supplements for varying scopes of ultrasonic application. The NRC has mandated each supplement's use in accordance with a specific schedule for implementation. Additionally, by implementing Appendix VIII for each of the specific supplements, it also requires the use of Appendix VII from the 1995 Edition through the 1996 Addenda within the same schedule.
- 4.2 For those items pertaining to paragraph 4.1 above, the Examination Category Item Numbers listed in Table 2.3 shall be ultrasonically examined in accordance with ASME Section XI, 1980 Edition through and including the 1981 Winter Addenda until the specified date. Beginning with the specified date, the ultrasonic examinations (preservice and inservice) shall be in accordance with ASME Section XI, Appendix VIII, 1995 Edition through and including the 1996 Addenda and the additional requirements of 10 CFR 55.55a.
- 4.4 On January 5, 2006 the NRC granted permission for all ENS sites to use the 1995 Edition, 1996 Addenda for ultrasonic examinations performed on items not covered under Appendix VIII (Reference 5).

**TABLE 2.3**  
**1995 EDITION, 1996 ADDENDA IMPLEMENTATION SCHEDULE**

Item Number	Specified Date to Begin New Requirements	New Appendix VIII Examinations Requirements	New Certification Requirements	Notes
<b>Examination Category: B-A</b>				
B1.40	1/5/2006	App. VIII does <u>not</u> apply	App. VII, 95E, 96A	
<b>Examination Category: B-D</b>				
B3.90	11/22/2002	Supps. 1 & 7	App. VII, 95E, 96A	
<b>Examination Category: B-J</b>				
B9.11 Stainless	5/22/2002	Supps 1 & 2	App. VII, 95E, 96A	
B9.31 Stainless	5/22/2002	Supps 1 & 2	App. VII, 95E, 96A	

NOTE: This Table has been truncated to include only applicable Examination categories.

**NRC Question:**

- 1.2 Provide the start and end dates for the RBS second 10-year inservice inspection interval.

**Entergy Response:**

The RBS second 10-year inservice inspection interval began December 1, 1997 and was scheduled to end November 30, 2007. However, the interval was adjusted to end May 31, 2008, to allow several Entergy sites to align the start of their next interval.

**NRC Question:**

- 1.3 Provide the inspection dates for all welds listed in the requests for relief for the RBS second 10-year ISI.

**Entergy Response:**

The following tables are segregated by Request for Relief. Each table lists the ASME Code Item number, the specific component identification, the associated inspection date(s) and the applicable Code edition/addenda of ASME Code, Section XI.

<b>RBS-ISI-007, B-A Examinations</b>			
<b>Item Number</b>	<b>Item ID</b>	<b>Inspection Date(s)</b>	<b>Applicable Code</b>
B1.40	B13-D001-AG	4/16/1999	1980 Ed/W81 Add.

<b>RBS-ISI-008, B-D Examinations</b>			
<b>Item Number</b>	<b>Item ID</b>	<b>Inspection Date(s)</b>	<b>Applicable Code</b>
B3.90	N03A-1	4/10/1999	1980 E/W81 A
B3.90	N03B-1	4/10/1999	1980 E/W81 A
B3.90	N03C-1	4/10/1999	1980 E/W81 A
B3.90	N03D-1	4/10/1999	1980 E/W81 A
B3.90	N16-1	4/10/1999	1980 E/W81 A
B3.90	N04A-1	4/19/1999	1980 E/W81 A
B3.90	N04B-1	4/19/1999	1980 E/W81 A
B3.90	N04C-1	4/20/1999	1980 E/W81 A
B3.90	N04D-1	4/20/1999	1980 E/W81 A
B3.90	N02A-1	10/29/2004	1995 E/96 A
B3.90	N02B-1	10/28/2004	1995 E/96 A
B3.90	N02C-1	10/28/2004	1995 E/96 A
B3.90	N02D-1	10/29/2004	1995 E/96 A
B3.90	N02E-1	10/29/2004	1995 E/96 A
B3.90	N02F-1	10/27/2004	1995 E/96 A
B3.90	N02G-1	10/29/2004	1995 E/96 A
B3.90	N02H-1	10/29/2004	1995 E/96 A
B3.90	N02J-1	10/29/2004	1995 E/96 A
B3.90	N02K-1	10/29/2004	1995 E/96 A

<b>RBS-ISI-009, B – G - 1 Examinations</b>			
<b>Item Number</b>	<b>Item ID</b>	<b>Inspection Date(s)</b>	<b>Applicable Code</b>
B6.40	FLG LIG A1 - A8, B1 - B8, C1 - C4	4/6/1999	1980 E/W81 A
B6.40	FLG LIG C5 - C8, D1 - D8, E1 – E8	9/25/2001	1980 E/W81 A
B6.40	FLG LIG F15 - F8, G1 - G8, H1 – H8	2/26/2008	1995 E/96 A

<b>RBS-ISI-010, B - J Examinations</b>			
<b>Item Number</b>	<b>Item ID</b>	<b>Inspection Date(s)</b>	<b>Applicable Code</b>
B9.11	RCS-900B-FWB06	3/12/2000	1980 E/W81 A
B9.11	RCS-900C-FWB015	3/9/2000	1980 E/W81 A
B9.11	RCS-900C-FWB016	3/9/2000	1980 E/W81 A
B9.31	RCS-900CX- SW014BC	3/9/2000	1980 E/W81 A
B9.31	RCS-900CX- SW014CB	3/9/2000	1980 E/W81 A
B9.11	WCS-001A1-XI- FW005	3/11/2000	1980 E/W81 A
B9.11	WCS-001A3-XI- FW011	3/11/2000	1980 E/W81 A
B9.11	WCS-005A-XI- SW002	10/3/2001	1995 E/96 A
B9.11	WCS-005A-XI- SW003	10/3/2001	1995 E/96 A
B9.11	WCS-001A3-XI- SW002	10/3/2001	1995 E/96 A

<b>RBS-ISI-011, B - K Examinations</b>			
<b>Item Number</b>	<b>Item ID</b>	<b>Inspection Date(s)</b>	<b>Applicable Code</b>
B10.10	CG	2/5/2008	1992 E/93 A

## 2.0 Request for Relief RBS-ISI-010, Examination Category B-J, Items B9.11 and B9.31, Pressure Retaining Welds in Piping

### NRC Question:

State the material of construction of the weld and base metal (e.g., wrought stainless steel) for each component listed in Table 2.2.1.

Table 2.2.1 - Examination Category B-J		
Code Item	Weld ID	Weld Type
B9.11	RCS-900C-FWB06	RCS pump to 20' Pipe
B9.11	RCS-900C-FWB15	Sweep-O-Let to 10" Pipe
B9.11	RCS-900CFWB16	Sweep-O-Let to 10" Pipe
B9.31	RCS-900CX-SW014BC	16" Pipe to Sweep-O-Let
B9.31	RCS-900CX-SW014CB	16" Pipe to Sweep-O-Let
B9.11	WCS-001A1-XI-FW005	4' Pipe to valve
B9.11	WCS-001A3-XI-FW011	4" Pipe to reducer
B9.11	WCS-005A-XI-SW002	6" Pipe to tee
B9.11	WCS-005A-XI-SW003	6" Tee to branch
B9.11	WCS-001A3-XI-SW002	6" Pipe to tee

### Entergy Response:

The following table lists the material for construction of the weld and the base metal.

Materials - Examination Category B-J			
Code Item	Weld ID	Weld Material	Base Material
B9.11	RCS-900B-FWB06 <sup>(1)</sup>	ER 308L	Pipe - SA358 TP316 Pump - SA351 GR CF8M
B9.11	RCS-900C-FWB15	ER 308L	Pipe - SA358 TP316 Sweep-O-Let - SA182 F316
B9.11	RCS-900CFWB16	ER 308L	Pipe - SA358 TP316 Sweep-O-Let - SA182 F316
B9.31	RCS-900CX-SW014BC	E/ER 308L	Pipe - SA358 TP316 Sweep-O-Let - SA182 F316
B9.31	RCS-900CX-SW014CB	E/ER 308L	Pipe - SA358 TP316 Sweep-O-Let - SA182 F316
B9.11	WCS-001A1-XI-FW005	ER 308L	Pipe - SA312 TP316L Valve - SA182 F316L
B9.11	WCS-001A3-XI-FW011	ER 308L	Pipe - SA312 TP316L Reducer - SA403 WP316L
B9.11	WCS-005A-XI-SW002	ER 316L	Pipe - SA312 TP316L Tee - SA403 WP316L



Materials - Examination Category B-J			
Code Item	Weld ID	Weld Material	Base Material
B9.11	WCS-005A-XI-SW003	ER 316L	Pipe – SA312 TP316L Tee – SA403 WP316L
B9.11	WCS-001A3-XI-SW002	ER 316L	Pipe – SA312 TP316L Tee – SA403 WP316L

**NOTES:**

(1) The correct weld ID designation is RCS-900B-FWB06, as identified on page 2 of 5 in Attachment 4 of Reference 1. The original Request for Relief has the weld correctly designated.

**3.0 Request for Relief RBS-ISI-011, Examination Category B-K, Item B10.10, Integral Attachments for Vessels, Piping, Pumps, and Valves**

Entergy has requested relief from the requirements of Examination Category B-K, Item B10.10, to address limited surface examinations on the reactor pressure vessel (RPV) support skirt weld. However, the 1992 Edition of the ASME Code does not have an Examination Category B-K. The subject RPV support skirt examination requirements are listed in Examination Category B-H.

It appears that Entergy may have invoked ASME Code Case N-509, *Alternative Rules for the Selection and Examination of Class 1, 2, and 3 Integrally Welded Attachments, Section XI, Division 1*, which lists Examination Category B-K, and states requirements for this, and other integral attachment, welds. ASME Code Case N-509 is conditionally acceptable according to an earlier revision of Regulation Guide 1.147, *Inservice Inspection Code Case Acceptability*, which may have been in effect at the start of the licensee's second 10-year inspection interval. The NRC staff condition for acceptable use was that a minimum 10% sample of integrally welded attachments for each item in each ASME Code class shall be examined during each interval.

**NRC Question:**

State whether ASME Code Case N-509 was invoked for the second interval at RBS, and confirm that the listed condition for acceptance was applied for all Class 1, 2 and 3 integral attachment welds.

**Entergy Response:**

ASME Code Case N-509 was invoked for the second interval at RBS. The condition for acceptance, that a minimum 10% sample of integrally welded attachments for each item in each ASME Code class shall be examined, was applied and met for the RBS second inservice inspection interval.

- References
1. Letter from Entergy dated May 29, 2009, RBG-46916, Requests for Relief from ASME Section XI Volumetric and Visual Examination Requirements – Second 10-Year Interval, (TAC NOS. ME1466, ME1469, ME1470, ME1471, and ME1472)
  2. Letter from Entergy dated October 30, 2009, RBG-46968, Supplement to Requests for Relief from ASME Section XI Volumetric and Visual Examination Requirements – Second 10-Year Interval, (TAC NOS. ME1466, ME1469, ME1470, ME1471, and ME1472)
  3. CEP-ISI-003, Program Section for ASME Section XI, Division 1 Inservice Inspection Program – River Bend Station
  4. Letter from NRC dated December 12, 1996, GNRI 96/00244, Evaluation of Entergy Operations, Inc., Request for Authorization to Update Inservice Inspection Programs to the 1992 and Portions of the 1993 ASME Boiler and Pressure Vessel Code, Section XI for Arkansas Nuclear One, Units 1 and 2, Grand Gulf Nuclear Station, River Bend Station, and Waterford Steam Electric Station, Unit 3. (TAC NOS. M94472, M94471, M94454, M94473 and M94488).
  5. Letter from NRC dated January 5, 2006, CNRI 06/00002, Use of Later Editions and Addenda of American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI for Ultrasonic Examinations. (TAC NOS. MC8045, MC8046, MC8047, MC8048, and MC8049).