

# FEB 2.8 2011

SERIAL: BSEP 11-0027

U. S. Nuclear Regulatory Commission

ATTN: Document Control Desk Washington, DC 20555-0001

Subject:

Brunswick Steam Electric Plant, Unit No. 2

Renewed Facility Operating License No. DPR-62

Docket No. 50-324

Response to Request for Additional Information Regarding Proposed

Alternatives for the Third 10-Year Inservice Inspection Program (NRC TAC

Number ME4344)

Reference:

Letter from Phyllis N. Mentel to U.S. Nuclear Regulatory Commission,

Proposed Alternatives for the Third 10-Year Inservice Inspection Program,

dated July 23, 2010, ADAMS Accession Number ML102150345.

#### Ladies and Gentlemen:

By letter dated July 23, 2010, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., submitted a set of proposed alternatives to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, for the Brunswick Steam Electric Plant (BSEP), Unit No. 2.

On February 8, 2011, via electronic mail, the NRC provided a request for additional information (RAI) regarding the alternative designated as 10 CFR 50.55a Request Number RR-48. Responses to the RAI are provided in Enclosure 1. An updated copy of Relief Request RR-48 is provided in Enclosure 2.

No regulatory commitments are contained in this letter. Please refer any questions regarding this submittal to Mr. Lee Grzeck, Acting Supervisor - Licensing/Regulatory Programs, at (910) 457-2487.

Sincerely,

FOR

Phyllis N. Mentel

Manager - Support Services Brunswick Steam Electric Plant

Progress Energy Carolinas, Inc. Brunswick Nuclear Plant PO Box 10429 Southport. NC 28461

ADUT NRR

## Document Control Desk BSEP 11-0027 / Page 2

#### WRM/wrm

#### Enclosures:

- 1. Response to Request for Additional Information
- 2. Updated 10 CFR 50.55a Request Number RR-48
- 3. Coverage Plot for Weld 2E1110-9-10-SWA

### cc (with enclosures):

U. S. Nuclear Regulatory Commission, Region II ATTN: Mr. Victor M. McCree, Regional Administrator 245 Peachtree Center Ave, NE, Suite 1200 Atlanta, GA 30303-1257

U. S. Nuclear Regulatory Commission ATTN: Mr. Philip B. O'Bryan, NRC Senior Resident Inspector 8470 River Road Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission (Electronic Copy Only) ATTN: Mrs. Farideh E. Saba (Mail Stop OWFN 8G9A) 11555 Rockville Pike Rockville, MD 20852-2738

Chair - North Carolina Utilities Commission P.O. Box 29510 Raleigh, NC 27626-0510

Mr. Jack M. Given, Jr., Bureau Chief North Carolina Department of Labor Boiler Safety Bureau 1101 Mail Service Center Raleigh, NC 27699-1101

### Response to Request for Additional Information

By letter dated July 23, 2010, Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., submitted a set of proposed alternatives to the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, for the Brunswick Steam Electric Plant (BSEP), Unit No. 2. On February 8, 2011, via electronic mail, the NRC provided a request for additional information (RAI) regarding the alternative designated as Relief Request RR-48. Responses to the RAI are provided below.

### NRC Question 1:

On page 1, the last paragraph states that the relief request applies to eight welds which is supported by Table RR-48-1. The next sentence in the paragraph mentions seven welds. Provide clarifications on the differences in number of welds.

#### Response:

The correct number of welds to which the alternative applies is eight (8). An updated copy of the requested 10 CFR 50.55a alternative is provided in Enclosure 2.

### NRC Question 2:

On page 2, the first paragraph states that Table RR-48-1 lists the ASME Code Examination Category and Item Numbers. In Table RR-48-1, the column for this identification is listed as N/A. Provide the ASME Code Examination Category and Item Numbers that applied to the subject welds prior to using the Item Numbers of Code Case N-578-1, "Risk-Informed Requirements for Class 1, 2, or 3 Piping, Method B, Section XI, Division 1."

#### Response:

An updated copy of the requested 10 CFR 50.55a alternative is provided in Enclosure 2. Table RR-48-1 has been updated to provide the ASME Code Examination Category and Item Numbers that applied to the listed welds prior to using the Item Numbers of ASME Code Case N-578-1.

### NRC Question 3:

On page 9 and 10, the eight welds list intergranular stress corrosion cracking (IGSCC) as the probable failure mechanism. Code Case N-578-1 lists the item number for IGSCC as R1.16. The item number for the eight welds in table RR-48-1 is R1.20. Provide an explanation for the differences in item numbers.

### Response:

Item R1.20 is applicable to components not subject to a damage mechanism, whereas Item R1.16 is applicable to components subject to IGSCC. The subject welds were evaluated, under the Risk-Informed Inservice Inspection Program, as having no damage mechanism other than IGSCC. Since IGSCC components are examined separately from the R-A program, under the BWRVIP augmented program, they were listed as R1.20. While CP&L believes that either Item Number classification would be applicable to the eight welds listed in Table RR-48-1, Table RR-48-1 has been revised to list R1.16 as the applicable ASME Code Case N-578-1 Exam Item Number.

#### NRC Question 4:

On page 4, the last paragraph references Table 2 for sound beam path and insonification angles. RR-48-1 is missing Table 2. Provide a cross-sectional coverage plot or plots of the EPRI TR-112657, Revision B-A, "Revised Risk-Informed Inservice Inspection Evaluation Procedure," mechanism specific examination volumes and include the location of obstructions (size, shape, proximity to the weld) that applied to each weld in RR-48. Describe the extent that the transducer(s) was able to scan over the weld and describe any portion of the volume on the opposite side of the weld exposed to the transducer's central beam. Include a description of the base metal, i.e., carbon steel, stainless steel, cast stainless steel, Inconel.

#### Response:

Each of the eight welds listed in Table RR-48-1 were one-sided examinations. Seven of these eight welds achieved full, one-sided coverage; therefore, plots for these welds are not being provided. One of the eight welds listed in Table RR-48-1 (i.e., 2E1110-9-10-SWA) achieved less than full, one-sided coverage (i.e., 42.25 percent versus 50 percent). A coverage plot for weld 2E1110-9-10-SWA is provided in Enclosure 3.

Each of the welds listed in Table RR-48-1 is a stainless steel-to-stainless steel configuration. Table RR-48-1 has been revised to reflect this information.

### NRC Question 5:

State whether any indications were discovered as a result of these examinations, and how were these indications dispositioned.

#### Response:

No recordable indications were discovered for these welds.

## 10 CFR 50.55a Request Number RR-48

Proposed Alternative In Accordance with 10 CFR 50.55a(g)(5)(iii)

- Inservice Inspection Impracticality -

### 1. ASME Components Affected

Code Class:

1

References:

Subarticle IWB-2500, Table IWB-2500-1

**Examination Categories:** 

As listed in Table RR-48-1, attached.

Item Numbers:

Listed in Table RR-48-1, attached.

Description:

Limited Coverage for Welds in Examination Category B-J and

R-A, Pressure Retaining Piping Welds

Component Numbers:

As listed in Table RR-48-1, attached.

### 2. Applicable Code Edition and Addenda

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda.

### 3. Applicable Code Requirement

By letter dated April 20, 2001 (i.e., Reference 1), Carolina Power & Light Company (CP&L), now doing business as Progress Energy Carolinas, Inc., submitted the initial risk-informed inservice inspection (RI-ISI) Program for the Brunswick Steam Electric Plant (BSEP). The initial RI-ISI program was developed using the process described in Electric Power Research Institute (EPRI) Topical Report (TR) 112657, Revision B-A, Revised Risk-Informed Inservice Inspection Evaluation Procedure, and using ASME Code Case N-578, Risk-Informed Requirements for Class 1, 2, and 3 Piping, Method B (i.e., Reference 2). The program was approved for use by the NRC in a Safety Evaluation issued by letter dated November 28, 2001 (i.e., Reference 3).

This relief request applies to eight (8) ASME Code Class 1 pressure-retaining piping welds. These welds were examined after the implementation of RI-ISI. In the BSEP RI-ISI program, these eight welds correspond to Examination Category R-A, Item R1.16 welds using the format in ASME Code Case N-578-1. Use of Code Case N-578-1 nomenclature is not intended to imply that the BSEP RI-ISI program is based on Code Case N-578-1. Code Case N-578-1 is an unapproved code case, as shown in Regulatory Guide 1.193 (i.e., Reference 4), and BSEP has not requested nor received approval to implement Code Case N-578-1. Rather, to maintain consistency with established ASME Code, Section XI

conventions, the weld categorization scheme of Code Case N-578-1 was adopted at BSEP to assist in assigning weld examination requirements. Code Case N-578-1 establishes a "R-A" weld category and weld item numbers R1.10 through R1.20, which allows BSEP to categorize RI-ISI piping welds in a manner similar to the standard ASME Section XI pipe weld program. The applicable ASME Code Examination Category and Item Numbers, and RI-ISI program Examination Category and Item Number, are shown in the attached Table RR-48-1.

Subarticle IWB-2500 states, in part: "Components shall be examined and tested as specified in Table IWB-2500-1." Table IWB-2500-1 requires a volumetric examination or a surface and volumetric examination be performed on the components based on their category and item numbers.

Figure IWB-2500-8 requires a volumetric examination of a minimum volume of the inner one-third thickness of the weldment. The weldment consists of the weld and the base material on each side of the weld equal to a distance of 1/4-inch on each side of the weld crown. In addition, the ultrasonic examination must meet the performance demonstration requirements in the ASME Code, Section XI, Appendix VIII. Essentially 100 percent of the required volume of each weld must be inspected. Code Case N-460, *Alternative Examination Coverage for Class 1 and Class 2 Welds* (i.e., Reference 5), is applicable when the entire examination volume or area cannot be examined due to interference by another component or part geometry. Under such circumstances, a reduction in examination coverage on any Class 1 or Class 2 weld may be accepted provided that the reduction in coverage for that weld is less than 10 percent.

In October 2007, the NRC issued Regulatory Guide 1.147, Revision 15, *Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1* (i.e., Reference 6). In Regulatory Guide 1.147, the NRC identifies the ASME Code Cases they have determined to be acceptable alternatives to applicable sections of Section XI, and that those Code Cases may be used by licensees without requesting NRC authorization provided they are used with any identified limitations or modifications. Table 1 of Regulatory Guide 1.147 lists the following Code Case as acceptable for use by a licensee with no identified limitations or modifications:

Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1

Code Case N-460 (i.e., Reference 5) states, in part:

When the entire examination volume or area cannot be examined due to interference by another component or part geometry, a reduction in examination coverage on any Class 1 or Class 2 weld may be accepted provided the reduction in coverage for that weld is less than 10 percent.

NRC Information Notice 98-42 (i.e., Reference 7) states that the NRC determined that a reduction in coverage of less than 10 percent to be "essentially 100 percent." Information Notice 98-42 states, in part:

The NRC has adopted and further refined the definition of 'essentially 100 percent' to mean 'greater than 90 percent' in 10 CFR 50.55a(g)(6)(ii)(A)(2) for required examination coverage of reactor pressure vessel welds. This standard has been applied to all examinations of welds and other areas required by ASME Section XI.

### 4. Impracticality of Compliance

The BSEP, Unit 2 systems and components were designed and fabricated before the examination requirements of the ASME Code, Section XI, were formalized and published. Therefore, the BSEP was not specifically designed to meet the requirements of the ASME Code, Section XI, and full compliance is not feasible or practical within the limits of the current plant design.

10 CFR 50.55a recognizes the limitations to inservice inspection of components in accordance with Section XI of the ASME Code that are imposed due to early plants' design and construction, as follows:

10 CFR 50.55a(g)(1):

For a boiling or pressurized water-cooled nuclear power facility whose construction permit was issued before January 1, 1971, components (including supports) must meet the requirements of paragraphs (g)(4) and (g)(5) of this section to the extent practical.

10 CFR 50.55a(g)(4):

Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2 and Class 3 must meet the requirements, except design and access provisions and preservice examination requirements, set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code and Addenda that become effective subsequent to editions specified in paragraphs (g)(2) and (g)(3) of this section and that are incorporated by reference in paragraph (b) of this section, to the extent practical within the limitations of design, geometry and materials of construction of the components.

10 CFR 50.55a(g)(5)(iii):

If the licensee has determined that conformance with certain code requirements is impractical for its facility, the licensee shall notify the Commission and submit, as specified in § 50.4, information to support the determinations.

In accordance with 10 CFR 50.55a(g)(5)(iii), CP&L has determined that it is impractical to meet the examination coverage requirements of Code Case N-460. The ASME Code, Section XI, requires volumetric (i.e., UT) examination of the welds from two sides of the weld in order to be 100 percent complete.

### 5. Burden Caused by Compliance

Compliance with the examination coverage requirements of the ASME Code, Section XI, would require modification, redesign, or replacement of components where geometry is inherent to the component design.

### 6. Proposed Alternative and Basis for Use

### **Proposed Alternative**

In accordance with 10 CFR 50.55a(g)(5)(iii), relief is requested for the components listed in Table RR-48-1 on the basis that the required examination coverage of "essentially 100 percent" is impractical due to physical obstructions and the limitations imposed by design, geometry, and materials of construction. No alternative examination is being proposed.

BSEP was at the end of the first period of the third 10-year inspection interval when RI-ISI was approved (i.e., ADAMS Accession Number ML013320632) and implemented (i.e., see the discussion in paragraph 3, page 2 of the NRC Safety Evaluation). Prior to the transition to a risk-informed inspection program, weld examinations required performance of surface examinations in accordance with Section XI of the ASME Code. Until the transition point (i.e., the end of the first period of the third inspection interval), 8 percent of the examinations required by the ASME Code, Section XI had been completed for Examination Category B-F and B-J piping welds. Beginning in the second period of the third interval, the components selected by the RI-ISI process replaced those formerly selected in accordance with the ASME Code, Section XI criteria. Since 8 percent of the examinations had been completed during the first period of the third interval, 92 percent of the RI-ISI examinations were performed during the second and third periods. Under the RI-ISI program, 61 Class 1 piping welds are required to be examined over a complete 10-year interval. Due to the mid-interval implementation of RI-ISI, 56 welds were required to be examined to complete the remainder of the interval. Of those 56 welds examined, BSEP is seeking relief on 8 welds.

Additionally, as Class 1 examination Category R-A components, a visual (i.e., VT-2) examination is performed on the subject components of the Reactor Coolant Pressure Boundary during system pressure tests each refueling outage. This was completed during the 2009 refueling outage (i.e., the B219R1 outage) and no evidence of leakage was identified for these components.

The sound beam modes and insonification angles used complied with the requirements of ASME Code, Section XI, Appendix VIII. Table RR-48-1 includes information on the sound beam modes and insonification angles. Coverage volumes are summarized in Table RR-48-1. Because the examinations were completed from one side (i.e., 50 percent maximum coverage), examination coverage plots were not generated.

The ultrasonic examinations of welds in the R-A Category, that are limited, were for austenitic components. These components were examined using an ultrasonic examination procedure based on the requirements of "PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds UT-PDI-2." This procedure states, "Where dual side access is not possible, the examination shall be performed from a single side of the weld." In situations where components were limited to single side access due to configuration (i.e., as described in Table RR-48-1), BSEP has only taken credit for 50 percent of examination.

Therefore, in accordance with 10 CFR 50.55a(g)(5)(iii), CP&L requests relief from the requirements of the ASME Code, Section XI, Table IWB-2500-1, Category B-J, Items B9.11 and B9.31, and ASME Code Case N-578-1, Category R-A, Item R1.16. CP&L proposes to utilize the completed exams as acceptable alternatives that provide reasonable assurance of continued structural integrity

CP&L has performed qualified examinations that achieved the maximum, practical amount of coverage obtainable within the limitations imposed by the design of the components. All other ASME Code Class 1 piping examinations in the RI-ISI Program have been completed in accordance with ASME Code volumetric requirements.

### Basis for Use

The CP&L Nondestructive Examination (NDE) procedures incorporate inspection techniques qualified under Appendix VIII of the ASME Code, Section XI, by the Performance Demonstration Initiative (PDI) for examination of the subject welds. For welds listed in Table RR-48-1, an ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI.

Additionally, as Class 1 examination category B-P components, VT-2 examinations were performed on the subject components in association with the Reactor Coolant Pressure Boundary system pressure test performed during the 2009 refueling outage. No evidence of leakage was identified during this system test.

The provisions described above as an alternative to the Code requirement will continue to provide reasonable assurance of the structural integrity of the subject welds. Therefore, in accordance with 10 CFR 50.55a(g)(5)(iii), CP&L requests relief from the ASME Code, Section XI, examination requirements for the subject welds.

### 6. Duration of the Proposed Alternative

Use of the proposed alternative is applicable to the third 10-year inservice inspection interval at BSEP, Unit 2. The third 10-year interval began on May 11, 1998, and ended on May 10, 2009.

### 7. References

- 1. Letter from David C. Dicello (CP&L) to the U.S. Nuclear Regulatory Commission Document Control Desk, *Third 10-Year Inservice Inspection Program Request for Approval of Risk-Informed Inservice Inspection Program*, April 20, 2001, ADAMS Accession Number ML011170157.
- 2. Electric Power Research Institute (EPRI) Topical Report (TR) 112657, Revision B-A, Revised Risk-Informed Inservice Inspection Evaluation Procedure, and using ASME Code Case N-578, Risk-Informed Requirements for Class 1, 2, and 3 Piping, Method B.
- 3. Letter from Richard P. Correia (NRC) to J. S. Keenan (CP&L), Safety Evaluation for the Risk-Informed Inservice Inspection (RI-ISI) Program (TAC Nos. MB1760 and MB1761), November 28, 2001, ADAMS Accession Number ML013320632.
- 4. NRC Regulatory Guide 1.193, ASME Code Cases Not Approved for Use, Revision 2, October 2007.
- 5. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1.
- 6. NRC Regulatory Guide 1.147, *Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1*, Revision 15, October 2007.
- 7. NRC Information Notice 98-42, *Implementation of 10 CFR 50.55a(g) Inservice Inspection Requirements*, December 1, 1998.

TABLE RR-48-1									
Weld	ASME IWB-2500 Exam Category and Item No.	ASME Code Case N-578-1 Exam Category and Item No.	Description	Coverage	Ultrasonic Technique S=Shear Wave L=Longitudinal Wave	Limitation			
2B32RECIRC-28-B-8	B-J	R-A	Elbow – Valve	50%	45S, 60S,60L	Access limited to elbow side of weld only			
	B9.31	R1.16	Stainless-to-Stainless			due to valve to elbow weld configuration Per PDI, the amount of coverage allowed for one sided examinations is 50%.			
2B32RECIRC-28-B-9BC	B-J B9.31	R-A R1.16	branch connection (weld-o-let) Stainless-to-Stainless	50%	35S, 45S, 60L	Access limited to pipe side of weld only due to Branch Connection weld configuration.  Per PDI, the amount of coverage allowed for one sided examinations is 50%.			
2B32RECIRC-28-A-9	B-J B9.31	R-A R1.16	Valve - Pipe Stainless-to-Stainless	50%	45S, 60L	Access limited to pipe side of weld only due to pipe to valve weld configuration. Per PDI, the amount of coverage allowed for one sided examinations is 50%.			
2B32RECIRC-28-A-9BC-1	B-J B9.31	R-A R1.16	branch connection (weld-o-let) Stainless-to-Stainless	50%	35S, 45S, 60L	Access limited to pipe side of weld only due to Branch Connection weld configuration.  Per PDI, the amount of coverage allowed for one sided examinations is 50%.			
2E1110-9-10-SWA	B-J B9.31	R-A R1.16	branch connection (weld-o-let) Stainless-to-Stainless	42.25%	45S, 60L	Access limited to pipe side of weld only due to Branch Connection weld configuration and surface contour.  Per PDI, the amount of coverage allowed for one sided examinations is 50%. An additional 7.75% was limited due to surface contour.			
2G31AY1-1-FWR10A	B-J B9.31	R-A R1.16	branch connection (weld-o-let) Stainless-to-Stainless	50%	45S, 70S	Access limited to pipe side of weld only due to Branch Connection weld configuration.  Per PDI, the amount of coverage allowed for one sided examinations is 50%.			

			TABLE RR-48-1	<u> </u>		
Weld	ASME IWB-2500 Exam Category and Item No.	ASME Code Case N-578-1 Exam Category and Item No.	Description	Coverage	Ultrasonic Technique S=Shear Wave L=Longitudinal Wave	Limitation
2B32FF-12-FWRRA10A	B-J B9.31	R-A R1.16	branch connection (sweep-o-let) Stainless-to-Stainless	50%	45S, 60L	Access limited to pipe side of weld only due to Branch Connection weld configuration.  Per PDI, the amount of coverage allowed for one sided examinations is 50%.
2B32FF-12-FWRRB13A	B-J B9.31	R-A R1.16	branch connection (sweep-o-let) Stainless-to-Stainless	50%	45S, 60S	Access limited to pipe side of weld only due to Branch Connection weld configuration.

### Weld 2B32RECIRC-28-B-8

This is a stainless steel elbow-to-valve weld. Due to configuration this is a one-sided examination. The risk category for this weld is 4(2) and the BWRVIP-75-A, IGSCC Category is C. This weld was examined after implementation of risk-informed ISI.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI Performance Demonstration Initiative (PDI), achieving limited coverage. Per PDI, the amount of Coderequired volume allowed for one sided examinations is 50%.

### Weld 2B32RECIRC-28-B-9BC

This is a stainless steel-to-stainless steel branch connection (weld-o-let) weld. Due to configuration this is a one-sided examination. The risk category for this weld is 4(2) and the BWRVIP-75-A, IGSCC Category is D. As part of the BWRVIP-75-A, IGSCC Category D, this weld was examined twice during the third inspection interval.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI, achieving limited coverage. Per PDI, the amount of Code-required volume allowed for one sided examinations is 50%.

#### Weld 2B32RECIRC-28-A-9

This is a stainless steel valve to pipe weld. Due to configuration this is a one sided examination. The risk category for this weld is 4(2) and the BWRVIP-75-A, IGSCC Category is C.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI, achieving limited coverage. Per PDI, the amount of Code-required volume allowed for one sided examinations is 50%.

### Weld 2B32RECIRC-28-A-9BC-1

This is a stainless steel-to-stainless steel branch connection (weld-o-let) weld. Due to configuration this is a one-sided examination. The risk category for this weld is 4(2) and the BWRVIP-75-A, IGSCC Category is D.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI, achieving limited coverage. Per PDI, the amount of Code-required volume allowed for one sided examinations is 50%.

### Weld 2E1110-9-10-SWA

This is a stainless steel-to-stainless steel branch connection (weld-o-let) weld. Due to configuration this is a one-sided examination. The risk category for this weld is 4(2) and the BWRVIP-75-A, IGSCC Category is C.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI, achieving 42.25% coverage of the Code-required volume.

### **Weld 2G31AY1-1-FWR10A**

This is a stainless steel-to-stainless steel branch connection (weld-o-let) weld. Due to configuration this is a one-sided examination. The risk category for this weld is 4(2) and the BWRVIP-75-A, IGSCC Category is D.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI, achieving limited coverage. Per PDI, the amount of Code-required volume allowed for one sided examinations is 50%.

### Weld 2B32FF-12-FWRRA10A

This is a stainless steel-to-stainless steel branch connection (sweep-o-let) weld. Due to configuration this is a one-sided examination. The risk category for this weld is 4(2), and the BWRVIP-75-A, IGSCC Category is B.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI, achieving limited coverage. Per PDI, the amount of Code-required volume allowed for one sided examinations is 50%.

### Weld 2B32FF-12-FWRRB13A

This is a stainless steel-to-stainless steel branch connection (sweep-o-let) weld. Due to configuration this is a one-sided examination. The risk category for this weld is 4(2), and the BWRVIP-75-A, IGSCC Category is B.

An ultrasonic examination was performed with examination personnel and examination procedures qualified to ASME Code, Appendix VIII, as administered by the EPRI PDI, achieving limited coverage. Per PDI, the amount of Code-required volume allowed for one sided examinations is 50%.

Coverage Plot for Weld 2E1110-9-10-SWA

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# **Supplemental Report**

Report No.; UT-05-049

Summary No.: 2-RHR-789-RI

Examiner: Creecy, Leland J.

Examiner: Michael, Dickey E.

Other: N/A

Level: II-PDI

Level: N/A

Level: II-PDI

Reviewer: Michael McKalg

Site Review: Robert Cline

ANII Review: Ray Acomb

Date: 3/19/2005

Date: 3/18/2005

Date: 3/21/30

Comments:

Sketch or Photo:

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