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SOUTHERN COMPANY
Energy to Serve Your World℠

May 30, 2008

Docket Nos.: 50-424
50-425

NL-08-0765

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

Vogtle Electric Generating Plant – Units 1 and 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Ladies and Gentlemen:

Pursuant to 10 CFR 50.55a(g)(5)(iv), Southern Nuclear Operating Company hereby submits the enclosed relief requests for the Vogtle Electric Generating Plant - Units 1 and 2, Second 10-Year Interval Inservice Inspection Program. These relief requests are coverage relief requests where it is impractical to obtain more than 90 percent coverage and there is reasonable assurance of structural integrity. Two of the nine relief requests pertain to pipe weld examinations performed after the implementation of risk informed inservice inspection (RI-ISI). The relief requests are requested to be approved by May 29, 2009.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

D. H. Jones
Vice President – Engineering

DHJ/DRG/daj

Enclosures:

1.	RR-43, Vogtle – Units 1 and 2	Pressurizer Nozzle to Safe-End Welds
2.	RR-44, Vogtle – Unit 1	Class 1 Cast Stainless Piping Butt Welds
3.	RR-45, Vogtle – Units 1 and 2	Class 1 Stainless Steel Piping Butt Welds
4.	RR-46, Vogtle – Unit 2	Class 2 Stainless Steel Piping Butt Welds
5.	RR-47, Vogtle – Units 1 and 2	Class 1 and 2 Stainless Steel Piping Butt Welds (RI-ISI)
6.	RR-48, Vogtle – Unit 2	Class 2 Ferritic Steel Piping Butt Welds (RI-ISI)
7.	RR-49, Vogtle – Units 1 and 2	Reactor Pressure Vessel Shell and Bottom Head Welds
8.	RR-50, Vogtle – Units 1 and 2	Class 2 Vessel Weld Examinations
9.	RR-51, Vogtle – Units 1 and 2	Class 2 Residual Heat Removal Heat Exchanger Shell Welds

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. T. E. Tynan, Vice President – Vogtle
RType: CVC7000

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. R. A. Jervey, NRR Project Manager – Vogtle
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle

Vogtle Electric Generating Plant – Units 1 and 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 1

Relief Request RR-43

Pressurizer Nozzle to Safe-End Welds

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-43 Version 1.0

Plant Site-Unit:	Vogtle Electric Generating Plant - Units 1 and 2.
Interval - Interval Dates:	2nd ISI Interval - May 31, 1997 through May 30, 2007.
Requested Date for Approval and Basis:	10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.
ASME Code Components Affected:	Class 1, ASME Section XI Category B-F, Item B5.40, pressure retaining dissimilar metal piping welds on the pressurizer as shown in Table RR-43.
Applicable Code Edition and Addenda:	ASME Section XI, 1989 Edition with no addenda. These were pre-Appendix VIII examinations.
Applicable Code Requirements:	Examination Category B-F, Table IWB-2500-1, of the 1989 Edition of the ASME Section XI Code requires surface and volumetric examination of pressure-retaining dissimilar welds in Class 1 piping. Applicable examination volumes are shown in ASME Section XI, Figure IWB-2500-8 and include essentially 100% of the weld length. To obtain 100% coverage, the ultrasonic beam must pass through the entire examination volume in four directions, axial (up & down) and circumferential (clockwise & counter-clockwise). Supplement 4 of Appendix III adds an additional 1/2-inch of base material on the ID for reflectors transverse to the weld (see Figure RR-43 for a pictorial representation).
Impracticality of Compliance:	Physical limitations due to geometric configuration of the welded areas restricted coverage of the examination volume as required by Figure IWB-2500-8 and ASME Section XI Appendix III, Supplement 4. The eight welds with limitations are described in Table RR-43. Figure RR-43 shows a typical representation of a single-side access examination, along with limitations. The examinations were performed to the maximum extent possible. Appreciably increasing coverage was impractical due to the limitations described in the table.
Burden Caused by Compliance:	Compliance would require replacement of the existing pressurizer nozzles and safe ends with new components fabricated with a special design to allow examination.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-43 Version 1.0

Proposed Alternative and Basis for Use:

A surface examination (liquid penetrant technique) was performed on these welds. The ultrasonic examinations were performed to Appendix III and consisted of primarily a single-sided examination from the safe-end side of the weld. The ultrasonic examination was also performed from the nozzle side to the extent possible.

Visual VT-2 examinations associated with the Class 1 leakage test were performed each refueling outage at both units. A bare metal visual (BMV) examination, in accordance with Materials Reliability Program MRP-139, was performed on the Vogtle-1 welds during the 1R12 and 1R13 outages (Spring 2005 and Fall 2006 outages, respectively) and during the Fall 2005 refueling outage (2R11). During the Spring 2008 outage (1R14) and the Spring 2007 outage (2R12), full-structural weld overlays were installed on the pressurizer nozzle to safe end welds for each Vogtle unit. In addition to mitigating these welds, the design of the full structural weld overlays allows future ultrasonic examinations to be performed with essentially no physical limitations.

Based on the level of examination coverage obtained for the subject welds plus the Vogtle decision to install full structural weld overlays on all six pressurizer nozzles for both units, there is reasonable assurance of the structural integrity of these welds. Therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request:

The proposed relief request is applicable for the 2nd Interval.

Precedents:

Ultrasonic coverage is similar to that shown in Vogtle-1 RR-12 and Vogtle-2 RR-12 for the first ISI interval.

References:

None

Status:

Awaiting NRC approval.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-43 Version 1.0

TABLE RR-43

Identification No.	Description	Limitation	Coverage	Examination Results
11201-V6-002-W17 1R9 (Fall 2000 Outage)	6-Inch Safety Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side due to the configuration. Limited circumferential scans on the nozzle side looking for axial cracking due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	No Recordable Indications
11201-V6-002-W18 1R9 (Fall 2000 Outage)	6-Inch Safety Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side due to the configuration. Limited circumferential scans on the nozzle side looking for axial cracking due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	No Recordable Indications
11201-V6-002-W19 1R9 (Fall 2000 Outage)	6-Inch Safety Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side due to the configuration. Limited circumferential scans on the nozzle side looking for axial cracking due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	No Recordable Indications
11201-V6-002-W20 1R9 (Fall 2000 Outage)	6-Inch Relief Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side due to the configuration. Limited circumferential scans on the nozzle side looking for axial cracking due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	UT Indications due to Geometry

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-43 Version 1.0

TABLE RR-43

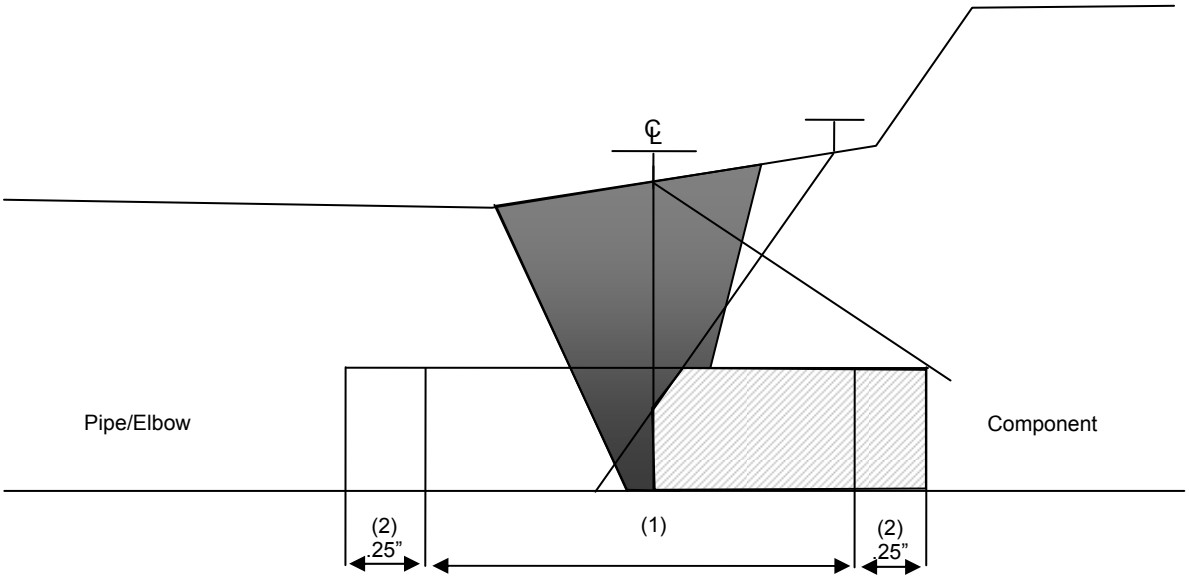
Identification No.	Description	Limitation	Coverage	Examination Results
21201-V6-002-W17 2R8 (Spring 2001 Outage)	6-Inch Safety Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side to the configuration. Limited circumferential scans on the nozzle side due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	No Recordable Indications
21201-V6-002-W18 2R8 (Spring 2001 Outage)	6-Inch Safety Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side to the configuration. Limited circumferential scans on the nozzle side due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	No Recordable Indications
21201-V6-002-W19 2R8 (Spring 2001 Outage)	6-Inch Safety Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side to the configuration. Limited circumferential scans on the nozzle side due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	A Code-allowable PT indication; No Recordable UT indications
21201-V6-002-W20 2R8 (Spring 2001 Outage)	6-Inch Relief Nozzle to Safe End	Pre-PDI examination. UT scans looking for circumferential cracking was 100% from the safe-end side but limited on the nozzle side to the configuration. Limited circumferential scans on the nozzle side due to the configuration of the nozzle. See Figure RR-43 for typical picture and coverage.	100% PT 69% UT	No Recordable Indications

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-43 Version 1.0

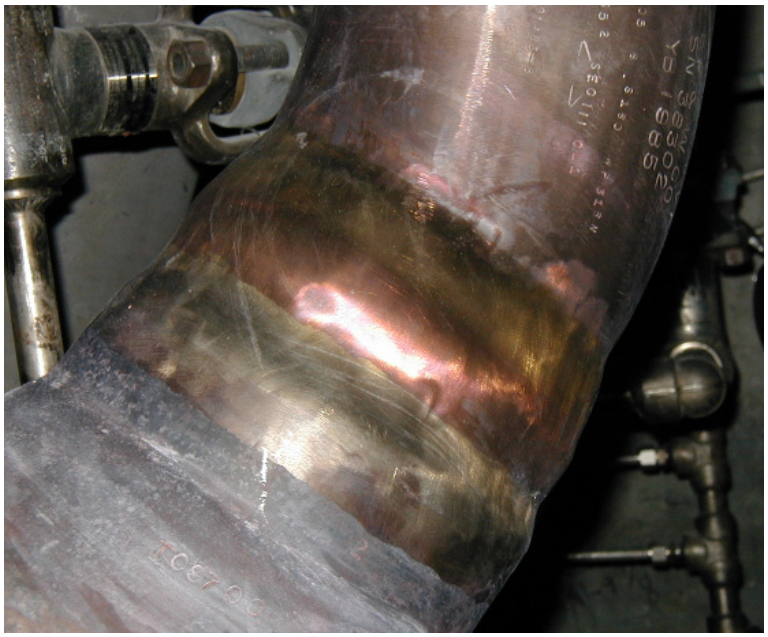
FIGURE RR-43

Typical Single-Side Access for Volumetric Examinations

Limited examination area (i.e., not all four-directional coverage) shown as hatched.



(1) Examination volume: Weld + ¼” each side of weld toes.
(2) Examination volume: Weld + ½” each side of weld toes for austenitic transverse scans.



Vogtle Electric Generating Plant – Unit 1
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 2

Relief Request RR-44

Class 1 Cast Stainless Piping Butt Welds

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-44 Version 1.0

Plant Site-Unit:	Vogtle Electric Generating Plant - Unit 1.
Interval - Interval Dates:	2nd ISI Interval - May 31, 1997 through May 30, 2007.
Requested Date for Approval and Basis:	10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.
ASME Code Components Affected:	Class 1, ASME Section XI Category B-J, Item B9.11, austenitic steel piping welds as shown in Table RR-44.
Applicable Code Edition and Addenda:	ASME Section XI, 1989 Edition with no addenda. These were pre-Appendix VIII examinations.
Applicable Code Requirements:	Examination Category B-J, Table IWB-2500-1, of the 1989 Edition of the ASME Section XI Code requires surface and volumetric examination of pressure-retaining welds in Class 1 piping. Applicable examination volumes are shown in ASME Section XI, Figure IWB-2500-8 and include essentially 100% of the weld length. To obtain 100% coverage, the ultrasonic beam must pass through the entire examination volume in four directions, axial (up & down) and circumferential (clockwise & counter-clockwise). Supplement 4 of Appendix III adds an additional 1/2-inch of base material on the ID for reflectors transverse to the weld (see Figure RR-44 for a pictorial representation).
Impracticality of Compliance:	Physical limitations due to the geometric configuration of the welded areas restricted coverage of the examination volume as required by Figure IWB-2500-8 and ASME Section XI Appendix III, Supplement 4. Two cast stainless piping welds with limitations are described in Table RR-44. Figure RR-44 shows a typical representation of a single-side access examination, along with limitations. The examinations were performed to the maximum extent possible. Appreciably increasing coverage was impractical due to the limitations described in the table.
Burden Caused by Compliance:	Compliance would require replacement of the existing reactor coolant pump nozzles with new components fabricated with a special design to allow examination.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-44 Version 1.0

Proposed Alternative and Basis for Use:	A surface examination (liquid penetrant technique) was performed on these welds. The ultrasonic examinations were performed to Appendix III and consisted of primarily a single-sided examination from the pipe or elbow side of the weld. The ultrasonic examination was also performed from the nozzle side to the extent possible. Based on the level of examination coverage obtained for the subject welds, if significant service-induced degradation were occurring, there is reasonable assurance that evidence of it would have been detected. In addition, VT-2 visual examinations associated with the Class 1 leakage test were performed each refueling outage. These examinations and tests provide reasonable assurance of the structural integrity of these welds. Therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).
Duration of Proposed Relief Request:	The proposed relief request is applicable for the 2nd Interval.
Precedents:	This relief request is essentially identical to Vogtle RR-13, Revision 3 for the 2nd ISI interval which was approved by the NRC on June 20, 2001.
References:	NRC SER TAC Nos. MB0603 and MB0604.
Status:	Awaiting NRC approval.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-44 Version 1.0

TABLE RR-44

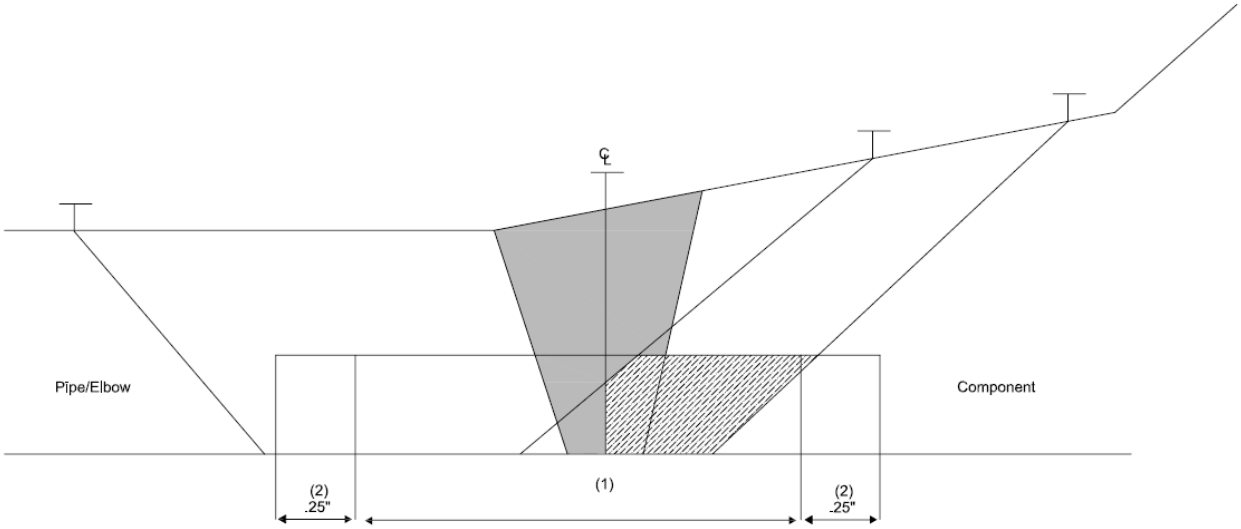
Identification No. / Exam. History	Description	Limitation	Coverage	Examination Results
11201-005-8 1R8 (Spring 1999 Outage)	31” Elbow to Nozzle	100 % surface examination. Complete ultrasonic examination from the elbow side. Limited coverage for axial and circumferential flaws from the nozzle side due to configuration. See Figure RR-44 for typical picture and coverage.	100% PT 90% UT	No Recordable Indications
11201-009-1 1R8 (Spring 1999 Outage)	27.5” Nozzle to Pipe	100 % surface examination. Complete ultrasonic examination from the pipe side. Limited coverage for axial and circumferential flaws from the nozzle side due to configuration. See Figure RR-44 for typical picture and coverage.	100% PT 75% UT	No Recordable Indications

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-44 Version 1.0

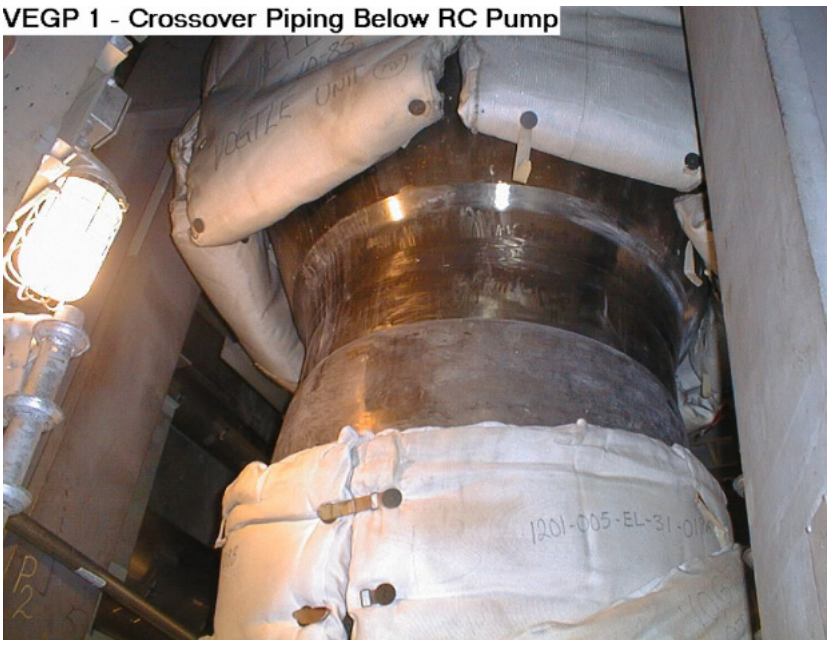
FIGURE RR-44

Typical Single-Side Access for Volumetric Examinations

Limited examination area (i.e., not all four-directional coverage) shown as hatched.



(1) Examination volume: Weld + ¼" each side of weld toes.
(2) Examination volume: Weld + ½" each side of weld toes for austenitic transverse scans.



Vogtle Electric Generating Plant – Units 1 and 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 3

Relief Request RR-45

Class 1 Stainless Steel Piping Butt Welds

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-45 Version 1.0

Plant Site-Unit:	Vogtle Electric Generating Plant - Units 1 and 2.
Interval - Interval Dates:	2nd ISI Interval-May 31, 1997 through May 30, 2007.
Requested Date for Approval and Basis:	10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.
ASME Code Components Affected:	Class 1, ASME Section XI Category B-J, Item B9.11, austenitic steel piping welds as shown in Table RR-45.
Applicable Code Edition and Addenda:	ASME Section XI, 1989 Edition with no addenda.
Applicable Code Requirements:	Examination Category B-J, Table IWB-2500-1, of the 1989 Edition of the ASME Section XI Code requires both a surface and a volumetric examination. The examinations were performed after the required implementation of Supplement 2 of Appendix VIII. The examination volumes are shown in ASME Section XI Figure IWB-2500-8 and include essentially 100% of the weld length.
Impracticality of Compliance:	Physical limitations due to geometric configuration of the welded areas restricted coverage of the examination volume as required by Figure IWB-2500-8. The two welds with limitations are described in Table RR-45. Figure RR-45 shows a typical representation of a single-side access examination with a valve, along with limitations. The configuration of the flange is similar. The examinations were performed to the maximum extent possible. Appreciably increasing coverage was impractical due to the limitations described in the table.
Burden Caused by Compliance:	Compliance would require replacement of the existing valve and flange with new components fabricated with a special design to allow examination.
Proposed Alternative and Basis for Use:	A surface examination (liquid penetrant technique) was performed on these welds. The ultrasonic examinations were performed after Appendix VIII and consisted of a single-sided examination from the pipe or elbow side of the weld. The root of the weld was interrogated with both a 45° shear wave and a 60°

refracted longitudinal wave looking for circumferential cracking. In addition, VT-2 visual examinations associated with the Class 1 leakage test are performed each refueling outage. These examinations and tests provide reasonable assurance of structural integrity of these welds. Therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request: The proposed relief request is applicable for the 2nd Interval.

Precedents: The physical limitations described in this relief request are essentially identical to Vogtle RR-13, Revision 3 for the 2nd ISI interval which was approved by the NRC on June 20, 2001. Since the UT examinations in this relief request were performed to Supplement 2 of Appendix VIII, the coverage calculations are less than the typical pre-Appendix VIII examinations listed in RR-13, Revision 3.

References: NRC SER TAC Nos. MB0603 and MB0604.

Status: Awaiting NRC approval.

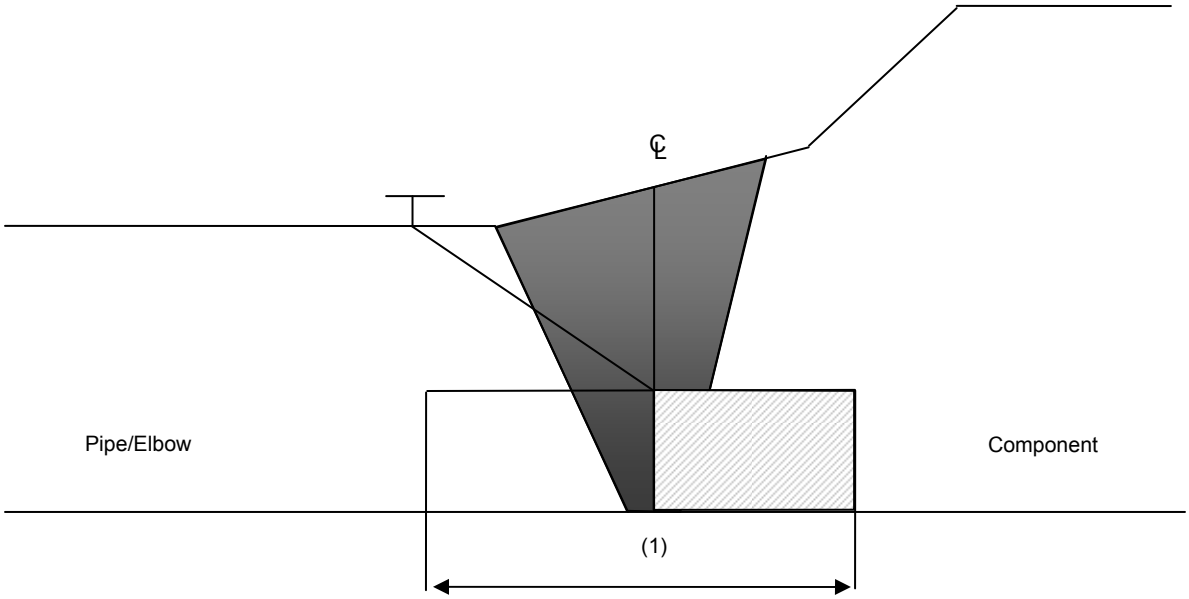
Table RR-45

Identification No. / Exam. History	Description	Limitation	Coverage	Examination Results
11204-021-17 1R10 (Spring 2002 Outage)	6" Valve to Pipe	Post-PDI examination. 100% surface examination. Complete ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-45 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	100% PT 50% UT	No Recordable Indications
21201-058-7 2R8 (Spring 2001 Outage)	6" Elbow to Flange	Post-PDI examination. 100% surface examination. Complete ultrasonic examination from the elbow side. No examination coverage from the flange side due to configuration. See Figure RR-45 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	100% PT 50% UT	No Recordable Indications

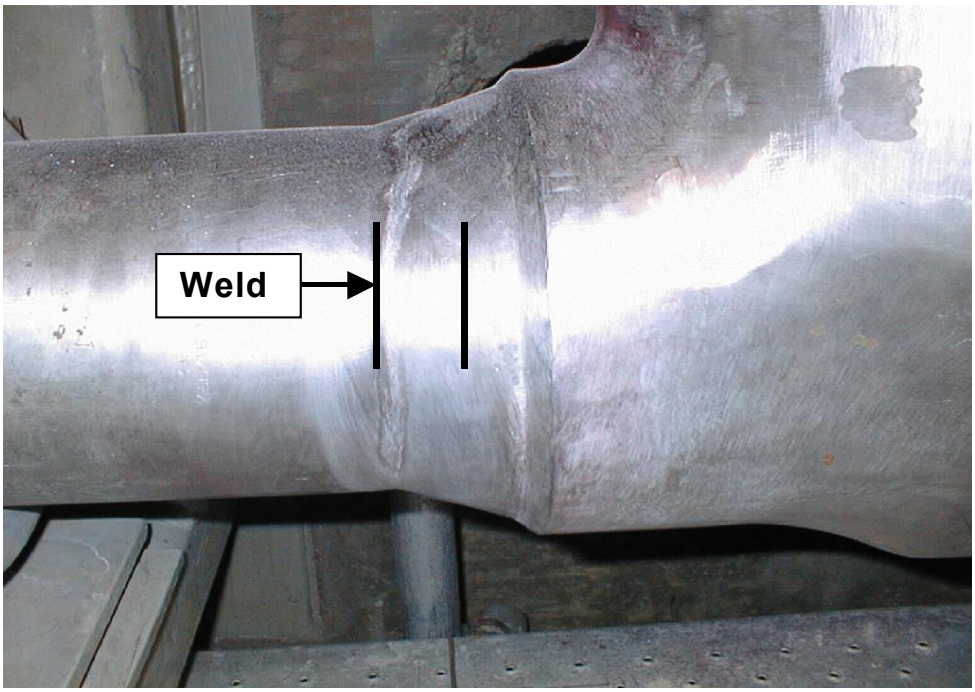
FIGURE RR-45

Typical Single-Side Access for Volumetric Examinations

Limited examination area (i.e., not all four-directional coverage) shown as hatched.



(1) Examination volume: Weld + ¼" each side of weld toes.



Vogtle Electric Generating Plant – Unit 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 4

Relief Request RR-46

Class 2 Stainless Steel Piping Butt Welds

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-46 Version 1.0

Plant Site-Unit:	Vogtle Electric Generating Plant - Unit 2.
Interval - Interval Dates:	2nd ISI Interval-May 31, 1997 through May 30, 2007.
Requested Date for Approval and Basis:	10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.
ASME Code Components Affected:	Class 2, ASME Section XI Category C-F-1, Item Number C5.11, austenitic steel piping welds as shown in Table RR-46.
Applicable Code Edition and Addenda:	ASME Section XI, 1989 Edition with no addenda.
Applicable Code Requirements:	Examination Category C-F-1, Table IWC-2500-1, of the 1989 Edition of the ASME Section XI Code requires both a surface and a volumetric examination. The examinations were performed after the required implementation of Supplement 2 of Appendix VIII. The examination volumes are shown in ASME Section XI Figure IWC-2500-7(a) and include essentially 100% of the weld length.
Impracticality of Compliance:	Physical limitations due to geometric configuration of the welded areas restricted coverage of the examination volume as required by Figure IWC-2500-7(a). The two welds with limitations are described in Table RR-46. Figure RR-46 shows a typical representation of a single-side access examination with a valve, along with limitations. The configuration of the flange is similar. The examinations were performed to the maximum extent possible. Appreciably increasing coverage was impractical due to the limitations described in the table.
Burden Caused by Compliance:	Compliance would require replacement of the existing flanges with new components fabricated with a special design to allow examination.
Proposed Alternative and Basis for	A surface examination (liquid penetrant technique) was performed on these welds. The ultrasonic examinations were performed after the implementation of Appendix VIII and consisted of primarily a single-sided examination from the

Use: pipe side of the weld. The root of the weld was interrogated with both a 45° shear wave and a 60° refracted longitudinal wave looking for circumferential cracking. In addition, VT-2 visual examinations associated with the Class 2 leakage test are performed once every ISI period. These examinations and tests provide reasonable assurance of structural integrity of these welds. Therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request: The proposed relief request is applicable for the 2nd Interval.

Precedents: The physical limitations described in this relief request are essentially identical to Vogtle RR-15, Revision 3 for the 2nd ISI interval which was approved by the NRC on June 20, 2001. Since the UT examinations in this relief request were performed to Supplement 2 of Appendix VIII, the coverage calculations are less than the typical pre-Appendix VIII examinations listed in RR-15, Revision 3.

References: NRC SER TAC Nos. MB0603 and MB0604.

Status: Awaiting NRC approval.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-46 Version 1.0

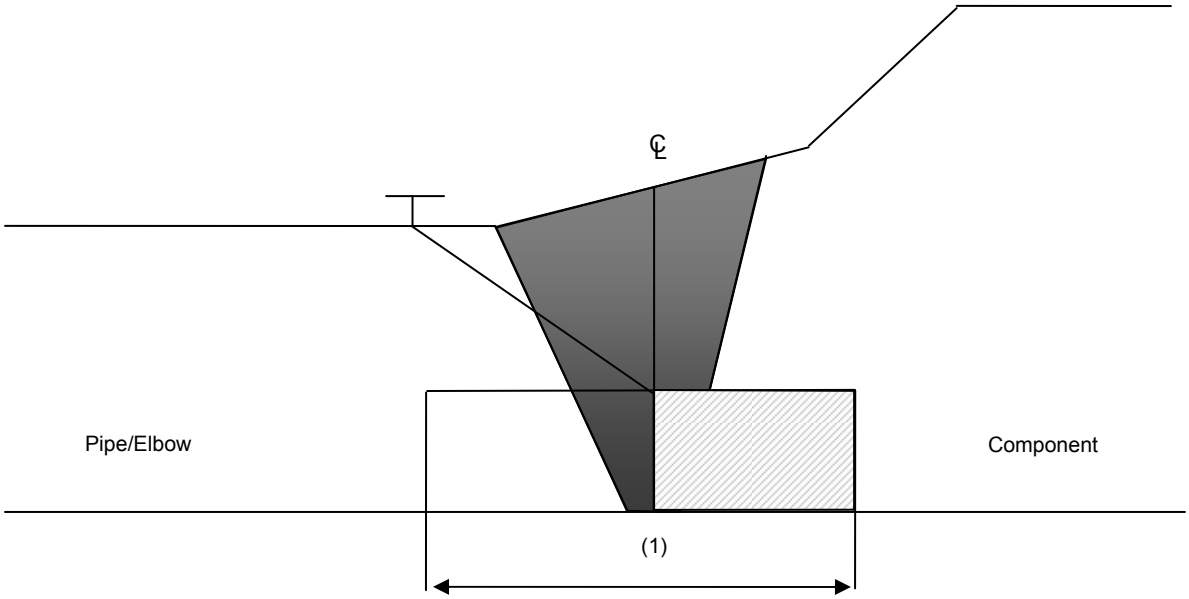
Table RR-46

Identification No. / Exam. History	Description	Limitation	Coverage	Examination Results
21206-005-1 2R8 (Spring 2001 Outage)	8" Flange to Pipe	Post-PDI examination. 100% surface examination. Complete ultrasonic examination from the pipe side. No examination coverage from the flange side due to configuration. See Figure RR-46 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	100% PT 50% UT	No Recordable Indications
21206-006-1 2R8 (Spring 2001 Outage)	8" Flange to Pipe	Post-PDI examination. 100% surface examination. Complete ultrasonic examination from the pipe side. No examination coverage from the flange side due to configuration. See Figure RR-46 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	100% PT 50% UT	No Recordable Indications

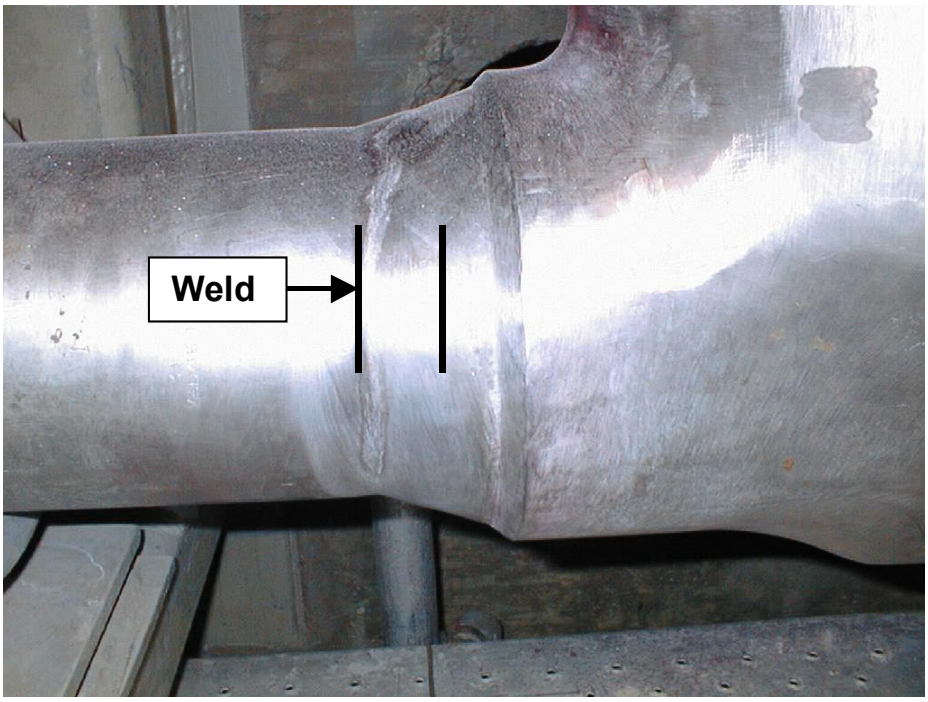
FIGURE RR-46

Typical Single-Side Access for Volumetric Examinations

Limited examination area (i.e., not all four-directional coverage) shown as hatched.



(1) Examination volume: Weld + ¼" each side of weld toes.



Vogtle Electric Generating Plant – Units 1 and 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 5

Relief Request RR-47

Class 1 and 2 Stainless Steel Piping Butt Welds (RI-ISI)

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-47 Version 1.0

Plant Site-Unit:

Vogtle Electric Generating Plant - Units 1 and 2.

Interval - Interval Dates:

2nd ISI Interval-May 31, 1997 through May 30, 2007.

Requested Date for Approval and Basis:

10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.

ASME Code Components Affected:

Southern Nuclear (SNC) developed the risk-informed ISI (RI-ISI) program for piping welds during the second ISI interval for Vogtle. SNC determined a scope from the Class 1 and 2 piping and prepared a technical alternative for NRC review. The NRC approved the technical alternative (see References) and RI-ISI was implemented at Vogtle during the 1R11 outage in Fall 2003 for Unit-1 and the 2R10 outage in Spring 2004 for Unit-2. The selected RI-ISI examinations are assigned ASME Category R-A per the Vogtle alternative. Vogtle has revised the original pipe weld numbers by adding an "-RI" suffix onto the weld numbers to distinguish them from the previous ISI weld number.

The affected components are Class 1 and 2, ASME Section XI Category R-A, austenitic steel piping welds as shown in Tables RR-47-1 and -2, respectively.

Applicable Code Edition and Addenda:

ASME Section XI, 1989 Edition with no Addenda plus NRC-approved technical alternative to implement risk-informed ISI for the examination of piping welds.

Applicable Code Requirements:

The Vogtle RI-ISI documentation including the technical alternative is used to determine the scope of the volumetric examinations. The examinations were performed after the required implementation of Supplement 2 of Appendix VIII. The examination volumes typically follow ASME Section XI Figures IWB-2500-8 and IWC-2500-7(a) except that the volume was increased to include ½-inch beyond each side of the base metal thickness transition (or counterbore) to meet RI-ISI requirements.

Impracticality of Compliance:

Physical limitations due to the geometric configuration of the welded areas restricted coverage of the examination volume as required by Figures IWB-2500-8 and IWC-2500-7(a). The thirteen welds with limitations are described in Table RR-47-1 (for Class 1 piping) and Table RR-47-2 (for Class 2 piping). The examinations were performed to the maximum extent possible. Figure RR-47 shows a typical representation of a single-side access examination with a

valve, along with limitations. The configuration of the branch connections are similar. Appreciably increasing coverage was impractical due to the limitations described in the table.

Burden Caused by Compliance:

Compliance would require replacement of the existing valves and branch connections with new components fabricated with a special design to allow examination.

Proposed Alternative and Basis for Use:

The ultrasonic examinations were performed after PDI implementation and consist of primarily a single-sided examination from the pipe or elbow side of the weld. All fourteen welds received a 45° shear wave examination looking for circumferential and axial cracking. The thicker piping welds (i.e., greater than 0.5-inch) were also examined with a 60° refracted longitudinal wave. The thinner piping welds were examined with a 70° shear wave. The prescribed coverage for the ultrasonic examinations is 50 %. In addition, VT-2 visual examinations associated with the Class 1 leakage test are performed each refueling outage for the welds listed in Table RR-47-1 and each ISI period for the welds listed in Table RR-47-2. These examinations and tests provide reasonable assurance of structural integrity of these welds. Therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request:

The proposed relief request is applicable for the 2nd Interval.

Precedents:

The physical limitations described in this relief request are essentially identical to Vogtle RR-13, Revision 3 and RR-15, Revision 3 for the 2nd ISI interval which was approved by the NRC on June 20, 2001. Since the UT examinations in this relief request were performed to Supplement 2 of Appendix VIII, the coverage calculations are less than the typical pre-Appendix VIII examinations listed in RR-13 and RR-15.

References:

NRC SER TAC Nos. MB0603 and MB0604 for the previous relief requests. The NRC approved risk-informed ISI at Vogtle per SER TAC Nos. MB6118 and MB6119.

Status:

Awaiting NRC approval.

Table RR-47-1: Class 1 Piping Welds

Identification No.	Description	Limitation	Coverage	Examination Results
11204-021-16-RI 1R12 (Spring 2005 Outage)	6" Pipe to Valve	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	UT Indication due to Geometry
11204-023-15-RI 1R11 (Fall 2003 Outage)	6" Pipe to Valve	Post-PDI examination. Limited ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited. Also, the pipe side had an additional limitation due to support steel interference which reduced the overall coverage to 40%.	40% UT	No Recordable Indications
21204-021-16-RI 2R10 (Spring 2004 Outage)	6" Pipe to Valve	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	UT Indication due to Geometry

Table RR-47-1: Class 1 Piping Welds

Identification No.	Description	Limitation	Coverage	Examination Results
21204-023-15R-RI 2R12 (Spring 2007 Outage)	6" Pipe to Valve	Post-PDI examination. Baseline examination after valve replacement. Complete ultrasonic examination from the pipe side for circumferential flaws. No examination coverage from the valve side due to configuration. Limited ultrasonic examination for clockwise and counterclockwise scans (for axial flaws) on the weld due to the taper. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited. However, with the additional limitations for the clockwise and counterclockwise scans the overall coverage is reduced to 35%.	35% UT	No Recordable Indications
21204-023-16R-RI 2R12 (Spring 2007 Outage)	6" Valve to Pipe	Post-PDI examination. Baseline examination after valve replacement. Complete ultrasonic examination from the pipe side for circumferential flaws. No examination coverage from the valve side due to configuration. Limited ultrasonic examination for clockwise and counterclockwise scans (for axial flaws) on the weld due to the taper. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited. However, with the additional limitations for the clockwise and counterclockwise scans the overall coverage is reduced to 35%. .	35% UT	No Recordable Indications

Table RR-47-2: Class 2 Piping Welds

Identification No. / Exam. History	Description	Limitation	Coverage	Examination Results
11204-038-1-RI 1R11 (Fall 2003 Outage)	14" Branch Connection to Pipe	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the branch connection side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	No Recordable Indications
11204-063-28-RI 1R11 (Fall 2003 Outage)	4" Valve to Pipe	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	No Recordable Indications
11204-177-13-RI 1R11 (Fall 2003 Outage)	8" Pipe to Valve	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	No Recordable Indications

Table RR-47-2: Class 2 Piping Welds

Identification No. / Exam. History	Description	Limitation	Coverage	Examination Results
11204-192-4-RI 1R11 (Fall 2003 Outage)	8" Pipe to Branch Connection	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the branch connection side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	No Recordable Indications
21204-006-2-RI 2R11 (Fall 2005 Outage)	24" Valve to Elbow	Post-PDI examination. Complete ultrasonic examination from the elbow side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	UT Indications due to Geometry
21204-008-10-RI 2R10 (Spring 2004 Outage)	8" Pipe to Valve	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	No Recordable Indications

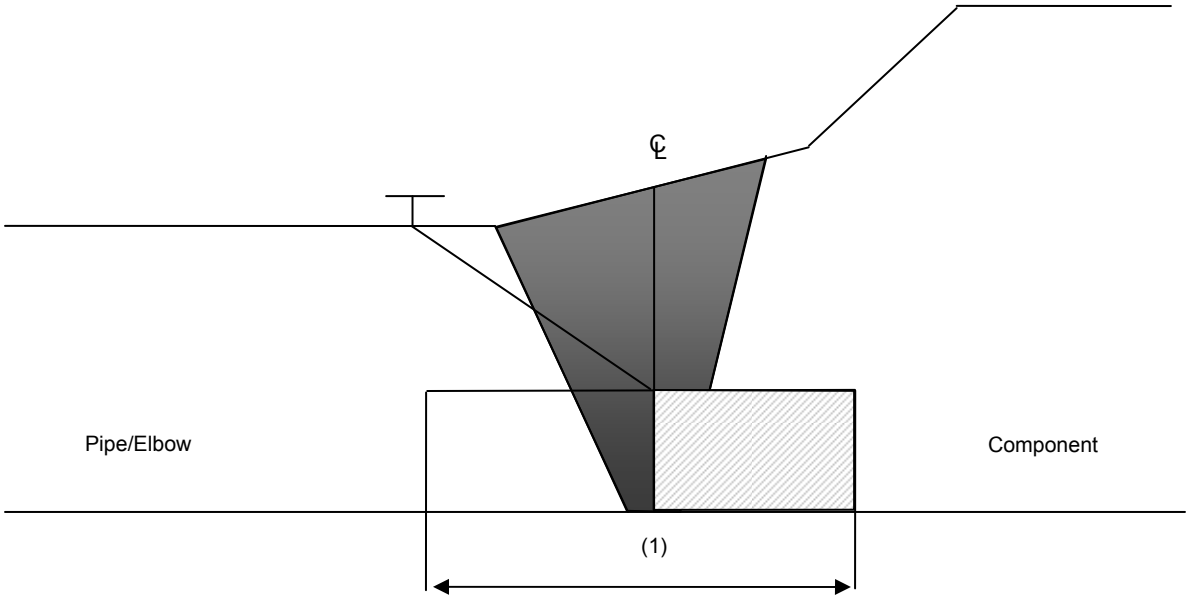
Table RR-47-2: Class 2 Piping Welds

Identification No. / Exam. History	Description	Limitation	Coverage	Examination Results
21204-039-1-RI 2R10 (Spring 2004 Outage)	6” Valve to Pipe	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the valve side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	No Recordable Indications
21204-192-4-RI 2R10 (Spring 2004 Outage)	8” Pipe to Branch Connection	Post-PDI examination. Complete ultrasonic examination from the pipe side. No examination coverage from the branch connection side due to configuration. See Figure RR-47 for typical picture and coverage. Per 10 CFR 50.55a(b)(2)(xv)(A)(2) when examination from both sides is not possible on austenitic welds, full coverage credit from a single side may be claimed only after completing a successful single-sided Appendix VIII demonstration using flaws on the opposite side of the weld. Since PDI qualifications do not meet requirements for flaws on the opposite side of the weld, only 50% of the Code coverage can be credited.	50% UT	No Recordable Indications

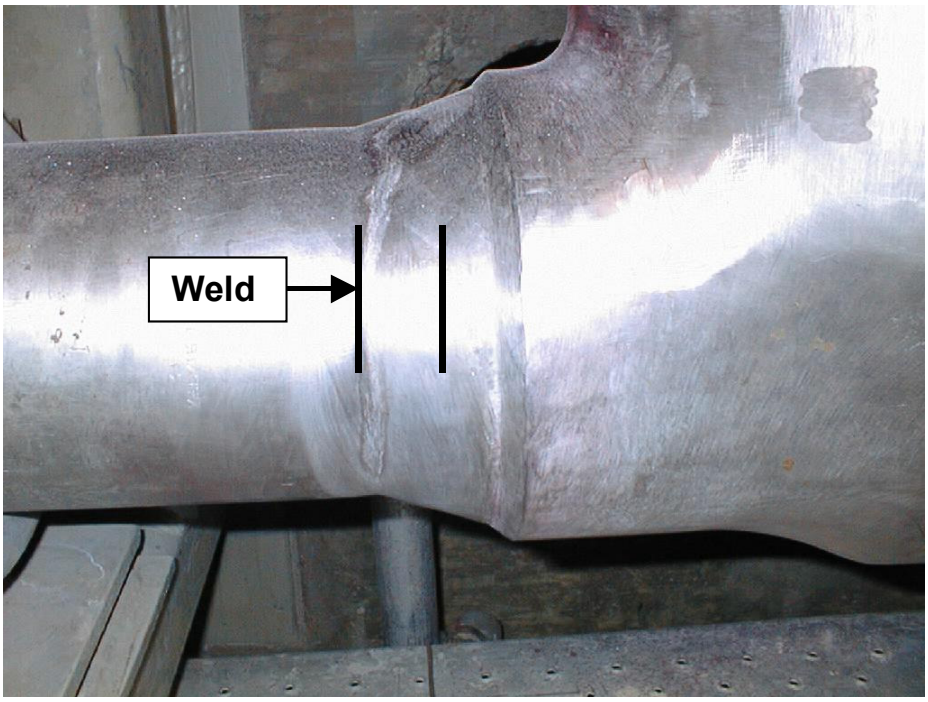
FIGURE RR-47

Typical Single-Side Access for Volumetric Examinations

Limited examination area (i.e., not all four-directional coverage) shown as hatched.



(1) Examination volume: Weld + ¼" each side of weld toes.



Vogtle Electric Generating Plant – Unit 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 6

Relief Request RR-48

Class 2 Ferritic Steel Piping Butt Welds (RI-ISI)

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-48 Version 1.0

Plant Site-Unit: Vogtle Electric Generating Plant - Unit 2.

Interval - Interval Dates: 2nd ISI Interval-May 31, 1997 through May 30, 2007.

Requested Date for Approval and Basis: 10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.

ASME Code Components Affected: Southern Nuclear (SNC) developed the risk-informed ISI (RI-ISI) program for piping welds during the second ISI interval for Vogtle. SNC determined a scope from the Class 1 and 2 piping and prepared a technical alternative for NRC review. The NRC approved the technical alternative (see References) and RI-ISI was implemented at Vogtle during the 1R11 outage in Fall 2003 for Unit-1 and the 2R10 outage in Spring 2004 for Unit-2. The selected RI-ISI examinations are assigned ASME Category R-A per the Vogtle alternative. Vogtle has revised the original pipe weld numbers by adding an "-RI" suffix onto the weld numbers to distinguish them from the previous ISI weld number.

The affected component is a Class 2, ASME Section XI Category R-A, ferritic steel piping weld as shown in Table RR-48.

Applicable Code Edition and Addenda: ASME Section XI, 1989 Edition with no Addenda plus NRC-approved technical alternative to implement risk-informed ISI for the examination of piping welds.

Applicable Code Requirements: The Vogtle RI-ISI documentation including the technical alternative is used to determine the scope of the volumetric examinations. The examinations were performed after the required implementation of Supplement 3 of Appendix VIII. The examination volume is shown in ASME Section XI, Figure IWC-2500-7(a) except that the volume was increased to include ½-inch beyond each side of the base metal thickness transition (or counterbore) to meet RI-ISI requirements.

Impracticality of Compliance: Physical limitations due to the geometric configuration of the welded areas restricted coverage of the examination volume as required by Figure IWC-2500-7(a). The weld with limitations is described in Table RR-48. The examination was performed to the maximum extent possible. Figure RR-48 shows a typical representation of the 29.5-inch weld, along with limitations. Appreciably increasing coverage was impractical due to the limitations

described in the table.

Burden Caused by Compliance: Compliance would require replacement of the existing 29.5-inch manifold piping plus the valve with new components fabricated with a special design to allow examination.

Proposed Alternative and Basis for Use: The ultrasonic examinations were performed after the implementation of Appendix VIII and consist of primarily a single-sided examination from the manifold piping. The root area of the weld was interrogated with a 45° shear wave looking for circumferential cracking. In addition, VT-2 visual examinations are performed each ISI period for the weld listed in Table RR-48. These examinations and tests provide reasonable assurance of structural integrity of this weld. Therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request: The proposed relief request is applicable for the 2nd Interval.

Precedents: The physical limitations described in this relief request are essentially identical to Vogtle RR-16, Revision 1 for the 2nd ISI interval which was approved by the NRC on December 31, 1998. Since the UT examination in this relief request were performed to Supplement 3 of Appendix VIII, the coverage calculations are less than the typical pre-Appendix VIII examinations listed in RR-16, Revision 1.

References: NRC SER TAC Nos. M98977, M98978, MA3364 and MA3365 for the previous relief requests. The NRC approved risk-informed ISI at Vogtle per SER TAC Nos. MB6118 and MB6119.

Status: Awaiting NRC approval.

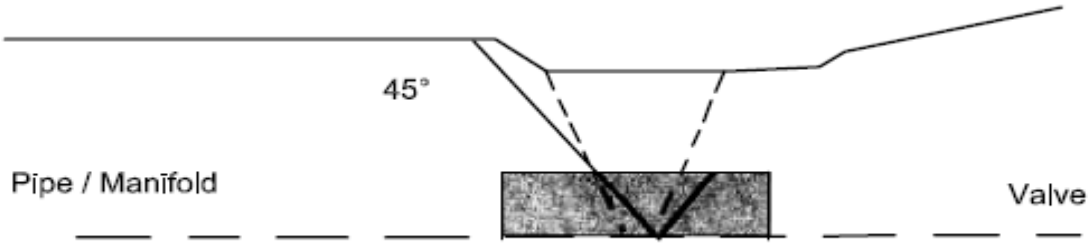
SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-48 Version 1.0

Table RR-48: Class 2 Piping Welds

Identification No.	Description	Limitation	Coverage	Examination Results
21301-004-10-RI 2R10 (Spring 2004 Outage)	29.5-Inch Manifold Pipe to Valve	Post-PDI examination after the implementation of RI-ISI (therefore, no surface examination is performed). There was no examination coverage from the valve side and limited ultrasonic examination from the pipe side due to the configuration. See Figure RR-48 for picture.	75% UT	No Recordable Indications

FIGURE RR-48

Typical Single-Side Access for Volumetric Examinations



Vogtle Electric Generating Plant – Units 1 and 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 7

Relief Request RR-49

Reactor Pressure Vessel Shell and Bottom Head Welds

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-49 Version 1.0

Plant Site-Unit:	Vogtle Electric Generating Plant - Units 1 and 2.
Interval-Interval Dates:	2nd ISI Interval - May 31, 1997 through May 30, 2007.
Requested Date for Approval and Basis	10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.
ASME Code Components Affected:	Class 1, ASME Section XI Category B-A, Items B1.11, B1.12, and B1.21 reactor pressure vessel (RPV) welds, as shown in Table RR-49.
Applicable Code Edition and Addenda:	ASME Section XI, 1989 Edition with no addenda.
Applicable Code Requirements:	ASME Item numbers (B1.11 and B1.12) listed above for Table IWB-2500-1, Examination Category B-A, require that 100% of the length of each weld be examined. However, ASME Item numbers B1.21 listed above for Table IWB-2500-1, Examination Category B-A, requires that the accessible length of each weld be examined. Even though only the accessible length was required for Item B1.21 welds, they were conservatively included. Per Code Case N-460, coverage greater than 90% is acceptable. The examination volume is shown in ASME Section XI, Figure IWB-2500-1 for Item Number B1.11, Figure IWB-2500-2 for Item Number B1.12, and Figure IWB-2500-3 for Item Number B1.21.
Impracticality of Compliance:	Physical limitations due to the geometric configuration of the welded areas restricted coverage of the examination volume as required by the figures. A total of seven RPV welds for Vogtle-1 and -2 are shown in Table RR-49. Three longitudinal welds on the Vogtle-1 RPV are included but the corresponding welds for Vogtle-2 did not have the limited examination. The design of the Vogtle-2 RPV included placing the core support lugs at different azimuths from the three lower shell longitudinal welds in order to maximize examination coverage. As noted in the limitations, additional positioning of the ultrasonic transducer was undertaken to maximize the coverage for these seven welds. Appreciably increasing coverage was impractical due to the interferences described in Table RR-49.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-49 Version 1.0

Burden Caused by Compliance: Obtaining more coverage would require replacement of the Vogtle-1 and -2 reactor pressure vessels.

Proposed Alternative and Basis for Use: The examination of these seven welds was performed using automated ultrasonic techniques qualified through the Appendix VIII process. A large percentage of the weld root was interrogated for these seven welds and no ultrasonic indications exceeded the allowable flaw tables. In addition, VT-2 visual examinations are performed each refueling outage for these components. Based on these examination results plus the cumulative volumetric examination coverage of all RPV shell welds there is reasonable assurance of structural integrity and relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request: The proposed relief request is applicable for the 2nd Interval.

Precedents: These RPV welds were examined during the first ISI interval with less coverage and were documented to the NRC. The NRC granted approval for these limited examinations by letters dated January 29, 1999 for Unit-1 and June 5, 2000 for Unit-2.

References: TAC Nos. MA0284 and MA3944 plus MA4356

Status: Awaiting NRC approval.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-49 Version 1.0

TABLE RR-49			
Weld Number / Examined	**ASME Item**	**Coverage**	**Basis for Limited Coverage**
11201-V6-001-W06 1R13 (Fall 2006 Outage)	B1.11	78.4%	The UT examination of this circumferential weld was limited by the proximity of six RPV core support lugs. Scanning was conducted between and below the obstructing lugs with the scan boundaries maximized by visually-assisted positioning of the remote examination head so that the scan starts and stops were as close to the core support lugs as possible.
11201-V6-001-W18 1R13 (Fall 2006 Outage)	B1.12	79.0%	The UT examination of this longitudinal weld was limited by the proximity of RPV core support lug at the 60° azimuth location. Scanning was conducted in both the perpendicular and parallel directions around the obstructing lug with the scan boundaries maximized by visually-assisted positioning of the remote examination head so that the scan starts and stops were as close to the core support lug as possible.
11201-V6-001-W19 1R13 (Fall 2006 Outage)	B1.12	79.0%	The UT examination of this longitudinal weld was limited by the proximity of RPV core support lug at the 180° azimuth location. Scanning was conducted in both the perpendicular and parallel directions around the obstructing lug with the scan boundaries maximized by visually-assisted positioning of the remote examination head so that the scan starts and stops were as close to the core support lug as possible.
11201-V6-001-W20 1R13 (Fall 2006 Outage)	B1.12	79.0%	The UT examination of this longitudinal weld was limited by the proximity of RPV core support lug at the 300° azimuth location. Scanning was conducted in both the perpendicular and parallel directions around the obstructing lug with the scan boundaries maximized by visually-assisted positioning of the remote examination head so that the scan starts and stops were as close to the core support lug as possible.
11201-V6-001-W07 1R13 (Fall 2006 Outage)	B1.21	74.1%	The UT examination of this circumferential weld was limited by the proximity of the peripherally-located bottom-mounted inspection (BMI) tubes. Scanning was conducted between the obstructing tubes with the scan boundaries maximized by visually-assisted positioning of the remote examination head so that the scan starts and stops were as close to the BMI tubes as possible.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-49 Version 1.0

TABLE RR-49			
Weld Number / Examined	**ASME Item**	**Coverage**	**Basis for Limited Coverage**
21201-V6-001-W06 2R12 (Spring 2007 Outage)	B1.11	78.4%	The UT examination of this circumferential weld was limited by the proximity of six RPV core support lugs. Scanning was conducted between and below the obstructing lugs with the scan boundaries maximized by visually-assisted positioning of the remote examination head so that the scan starts and stops were as close to the core support lugs as possible.
21201-V6-001-W07 2R12 (Spring 2007 Outage)	B1.21	74.1%	The UT examination of this circumferential weld was limited by the proximity of the peripherally-located bottom-mounted inspection (BMI) tubes. Scanning was conducted between the obstructing tubes with the scan boundaries maximized by visually-assisted positioning of the remote examination head so that the scan starts and stops were as close to the BMI tubes as possible.

Vogtle Electric Generating Plant – Units 1 and 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 8

Relief Request RR-50

Class 2 Vessel Weld Examinations

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-50 Version 1.0

Plant Site-Unit:	Vogtle Electric Generating Plant – Units 1 and 2
Interval-Interval Dates:	2nd ISI Interval – May 31, 1997 through May 30, 2007
Requested Date for Approval and Basis	10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.
ASME Code Components Affected:	Class 2, ASME Section XI, Code Category C-B, Item No. C2.21, for Class 2 vessel welds as shown on Table RR-52.
Applicable Code Edition and Addenda:	ASME Section XI, 1989 Edition with no addenda.
Applicable Code Requirements:	Table IWB-2500-1, Examination Category C-B, Item C2.21 requires examination per Figure IWC-2500-4(a), (b) or (c).
Impracticality of Compliance:	Physical limitations due to geometric configuration of the welded areas restricted coverage of the examination volume as required by the figures referenced above. The five welds with limitations include the RHR heat exchanger (1205 system) and the Class 2 portion of the steam generator 4 (1201 system). The limitations are described in Table RR-50. The ASME Code figures are not representative of the Vogtle RHR heat exchanger nozzle weld numbers W04 and W05. Figure RR-50-1 shows the Vogtle RHR heat exchanger nozzle configuration which includes the reinforcing plate on the ID of the nozzle as compared to the ASME Code Figure IWC-2500-4(c) which shows the reinforcing plate on the OD. Figure RR-50-2 shows the Auxiliary Feedwater Nozzle on Unit-2 steam generator 4. With this configuration, the examinations were performed to the maximum extent possible. Appreciably increasing coverage was impractical due to the limitations described in the table.
Burden Caused by Compliance	Compliance would require replacement of the existing heat exchangers and steam generators with a special design to allow examination.

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Proposed Alternative and Basis for Use:

A surface examination was performed on these welds. The inspection volume of all five welds was interrogated with UT from one side of the weld looking for circumferential cracking. In addition, VT-2 visual examinations associated with the Class 2 leakage test are performed once an ISI period on all of these welds. These examinations and tests provide reasonable assurance that structural integrity is being maintained; therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request:

The proposed relief request is applicable for the 2nd ISI Interval.

Precedents:

The physical limitations described in this relief request are very similar to Vogtle RR-14, Revision 3 which was approved by the NRC on June 20, 2001.

References:

NRC SER TAC Nos. MB0603 and MB0604.

Status:

Awaiting NRC approval.

TABLE RR-50				
Weld Number / Examined	**ASME Item**	**Coverage**	**Limitations**	**Examination Results**
11205-E6-002-W04 1R12 (Spring 2005 Outage)	C2.21	100% PT 41.5% UT	This is a stainless steel heat exchanger. Due to the configuration (see Figure RR-50-1), the axial scans looking for circumferential cracking were performed only from the nozzle side. Axial scan coverage from the nozzle side was complete; however, because the material is stainless steel, only 50% of the examination volume was conservatively credited for examination. There were limited circumferential scans looking for axial cracking due to the weld configuration. 100% surface examination performed.	No Recordable Indications
11205-E6-002-W05 1R12 (Spring 2005 Outage)	C2.21	100% PT 41.5% UT	This is a stainless steel heat exchanger. Due to the configuration (see Figure RR-50-1), the axial scans looking for circumferential cracking were performed only from the nozzle side. Axial scan coverage from the nozzle side was complete; however, because the material is stainless steel, only 50% of the examination volume was conservatively credited for examination. There were limited circumferential scans looking for axial cracking due to the weld configuration. 100% surface examination performed.	No Recordable Indications
21205-E6-002-W04 2R12 (Spring 2007 Outage)	C2.21	100% PT 41.5% UT	This is a stainless steel heat exchanger. Due to the configuration (see Figure RR-50-1), the axial scans looking for circumferential cracking were performed only from the nozzle side. Axial scan coverage from the nozzle side was complete; however, because the material is stainless steel, only 50% of the examination volume was conservatively credited for examination. There were limited circumferential scans looking for axial cracking due to the weld configuration. 100% surface examination performed.	Code-allowable PT indication; No Recordable UT Indications

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TABLE RR-50

Weld Number / Examined	ASME Item	Coverage	Limitations	Examination Results
21205-E6-002-W05 2R12 (Spring 2007 Outage)	C2.21	100% PT 41.5% UT	This is a stainless steel heat exchanger. Due to the configuration (see Figure RR-50-1), the axial scans looking for circumferential cracking were performed only from the nozzle side. Axial scan coverage from the nozzle side was complete; however, because the material is stainless steel, only 50% of the examination volume was conservatively credited for examination. There were limited circumferential scans looking for axial cracking due to the weld configuration. 100% surface examination performed.	No Recordable PT Indications; Code-allowable UT indication
21201-B6-004-W26 2R10 (Spring 2004 Outage)	C2.21	100% MT 50% UT	This is a carbon steel steam generator. Due to the configuration (see Figure RR-50-2), the axial scans looking for circumferential cracking were performed only from the vessel side. Axial scan coverage from the vessel side was complete. Circumferential scans looking for axial cracking were limited to the weld and vessel side. 100% surface examination performed.	No Recordable Indications

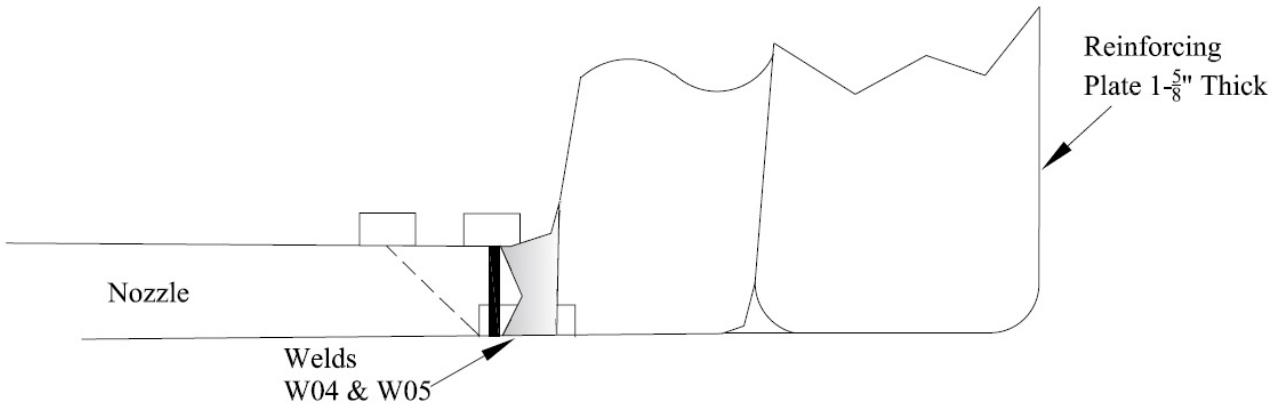

Figure RR-50-1 for RHR Heat Exchanger Nozzle Welds

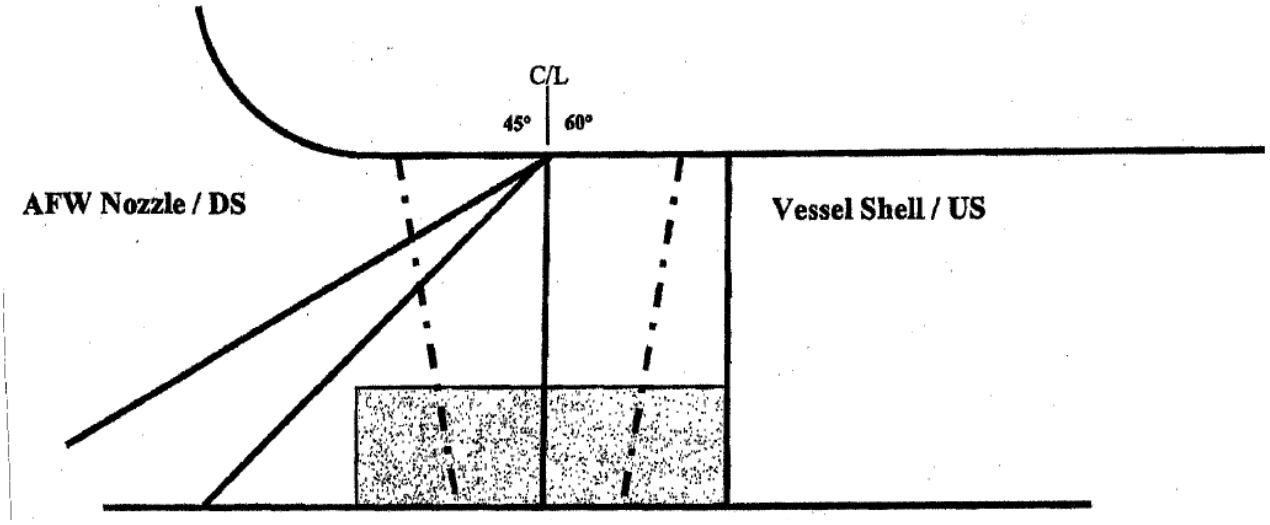

Figure RR-50-2 for Steam Generator 4 Nozzle Weld

Vogtle Electric Generating Plant – Units 1 and 2
Second 10-Year Interval Inservice Inspection Program
Submittal of Relief Requests

Enclosure 9

Relief Request RR-51

Class 2 Residual Heat Removal Heat Exchanger Shell Welds

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-51 Version 1.0

Plant Site-Unit:	Vogtle Electric Generating Plant – Units 1 and 2
Interval-Interval Dates:	2nd ISI Interval – May 31, 1997 through May 30, 2007
Requested Date for Approval and Basis	10 CFR 50.55a(g)(5)(iv) states: "Where an examination requirement by the code or addenda is determined to be impractical by the licensee and is not included in the revised inservice inspection program as permitted by paragraph (g)(4) of this section, the basis for this determination must be demonstrated to the satisfaction of the Commission not later than 12 months after the expiration of the initial 120-month period of operation from start of facility commercial operation and each subsequent 120-month period of operation during which the examination is determined to be impractical." Hence, SNC is asking for approval as soon as possible in order to close-out the second ISI interval activities.
ASME Code Components Affected:	Class 2, ASME Section XI, Code Category C-A, Item Number C1.10, for Class 2 vessel shell welds as shown in Table RR-51.
Applicable Code Edition and Addenda:	ASME Section XI, 1989 Edition with no addenda.
Applicable Code Requirements:	Table IWB-2500-1, Examination Category C-A, Item C1.10 requires examination per Figure IWC-2500-1.
Impracticality of Compliance:	Physical limitations due to geometric configuration of the welded areas restricted coverage of the examination volume as required by the figure referenced above. The two welds with limitations are on the Residual Heat Removal (RHR) heat exchanger and are described in Table RR-51. Figure RR-51 shows the typical representation of the limited weld examinations. The examinations were performed to the maximum extent possible. Appreciably increasing coverage was impractical due to the limitations described in the table.
Burden Caused by Compliance	Compliance would require replacement of the existing RHR heat exchangers with a special design to allow examination.
Proposed Alternative and Basis for Use:	At least 74% of the examination volume of each weld was interrogated using two beam directions looking for circumferential cracking. Additionally, at least 95% of the examination volume of each weld was interrogated using one beam direction looking for circumferential cracking. In addition, VT-2 visual examinations associated with the Class

2 leakage test are performed once an ISI period on all of these welds. These examinations and tests provide reasonable assurance that structural integrity is being maintained; therefore, relief should be granted per 10 CFR 50.55a(g)(6)(i).

Duration of Proposed Relief Request: The proposed relief request is applicable for the 2nd ISI Interval.

Precedents: The physical limitations described in this relief request are very similar to Vogtle RR-14, Revision 3 which was approved by the NRC on June 20, 2001.

References: NRC SER TAC Nos. MB0603 and MB0604.

Status: Awaiting NRC approval.

SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
RR-51 Version 1.0

TABLE RR-51				
Weld Number / Examined	**ASME Item**	**Coverage**	**Limitations**	**Examination Results**
11205-E6-002-W01 1R10 (Spring 2002 Outage)	C1.10	55% UT	No examination coverage from the flange side due to the configuration. Limited clockwise and counterclockwise scans (for axial flaws) on the weld due to the weld configuration. See Figure RR-51 for coverage.	No Recordable Indications
21205-E6-002-W01 2R09 (Fall 2002 Outage)	C1.10	56% UT	No examination coverage from the flange side due to the configuration. Limited clockwise and counterclockwise scans (for axial flaws) on the weld due to the weld configuration. See Figure RR-51 for coverage.	UT indications due to Geometry

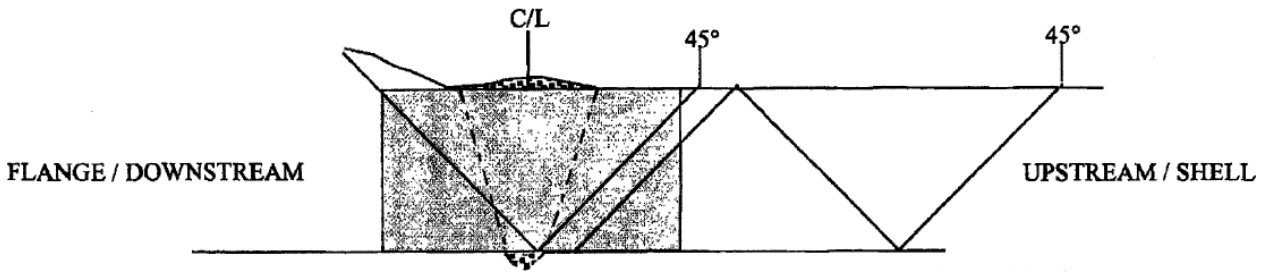

Figure RR-51 for RHR Heat Exchanger Shell Welds