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Energy to Serve Your WorldSM

December 19, 2008

Docket No.: 50-321

NL-08-1798

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

Edwin I. Hatch Nuclear Plant – Unit 1
Fourth 10-Year Interval Inservice Inspection Program
Submittal of Relief Request RR-01

Ladies and Gentlemen:

Pursuant to 10 CFR 50.55a(g)(5)(iii), Southern Nuclear Operating Company hereby submits the enclosed relief request for the Hatch Nuclear Plant – Unit 1, Fourth 10-Year Interval Inservice Inspection Program. This relief request is needed due to impracticality where there is reasonable assurance of structural integrity. The relief is requested to be approved by December 31, 2009.

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

Sincerely,

A handwritten signature in black ink that reads "Mark J. Ajluni".

M. J. Ajluni
Manager, Nuclear Licensing

MJA/MNW/daj

Enclosure: RR-01, Hatch – Unit 1, Reactor Pressure Vessel Longitudinal Welds

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. D. R. Madison, Vice President – Hatch
Mr. D. H. Jones, Vice President – Engineering
RTYPE: CHA02.004

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Hatch
Mr. J. A. Hickey, Senior Resident Inspector – Hatch

Edwin I. Hatch Nuclear Plant – Unit 1

Enclosure

Relief Request RR-01, Reactor Pressure Vessel Longitudinal Welds

**SOUTHERN NUCLEAR OPERATING COMPANY
PROPOSED RELIEF REQUEST IN ACCORDANCE WITH 10 CFR 50.55a(g)(5)(iii)
Fourth Interval RR-01, Version 1.0**

Plant Site- Unit:	Plant – Hatch Unit 1.
Interval - Interval Dates:	4th ISI Interval - December 31, 2005 through December 31, 2015.
Requested Date for Approval and Basis:	Approval is requested by December 31, 2009
ASME Code Components Affected:	Class 1, ASME Section XI Category B-A, Item Number B1.12 reactor pressure vessel (RPV) longitudinal welds as shown in Table 1.
Applicable Code Edition and Addenda:	ASME Section XI, 2001 Edition with 2003 addenda.
Applicable Code Requirements:	Examination Category B-A, Table IWB-2500-1 of the 2001 Edition with 2003 addenda of the ASME Section XI Code requires a volumetric examination. The examinations were performed from the inside of the reactor vessel using automated tooling. The examination volumes are shown in ASME Section XI Figures IWB-2500-2 and include essentially 100% of the weld length.
Impracticality of Compliance:	Physical obstruction of some examination surfaces due to permanently attached equipment adjacent to the examination areas caused restricted coverage of the examination volume as required by Figure IWB-2500-2. Nine of the eleven weld examinations were affected. The nine welds with limitations are described in Table RR-01-1 and the obstructions are depicted in Figures RR-01-01 through RR-01-09.
Burden Caused by Compliance:	Compliance would require removal of the permanently attached adjacent structures located inside the reactor vessel to achieve a complete examination.

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**Proposed
Alternative
and Basis for
Use:**

Volumetric examinations for the 4th Inspection Interval were performed on the Hatch-1 RPV longitudinal welds using a newly developed scanning tool. The tool scans from the inside surface of the reactor vessel and provided greatly improved coverage of the welds located in the high fluence areas of the beltline region and similar composite coverage of welds not in the beltline region when compared to the previous examination. The previous interval examination coincided with RPV insulation replacement and some of the scanning was performed from the vessel exterior. All examinations performed during the 4th interval were done from the vessel interior.

Coverage for the higher fluence welds (C-3-A, C-3-B, C-3-C, C-4-A, C-4-B, and C-4-C) was an average of approximately 80%. This coverage, in addition to the coverage obtained for lower fluence welds C-2-A, C-2-B, and C-2-C, provides 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 Hatch Unit 1 4th Inspection Interval.

Precedents:

The physical limitations described in this relief request are similar to Hatch-1 for the 3rd ISI interval which was approved by the NRC on March 11, 1999. The ultrasonic examinations performed for the 4th interval under this relief request contained an overall higher composite coverage and significantly greater coverage in the beltline region of the RPV, including the previously inaccessible weld C-4-B.

References:

The NRC SER TAC No. for the 3rd interval "Edwin I. Hatch Nuclear Plant Unit 1- relief request for authorization to alternative reactor pressure vessel examination for circumferential welds" is (MB3843).

Status:

Awaiting NRC approval.

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Class 1 Vessel Welds
Table RR-01-1

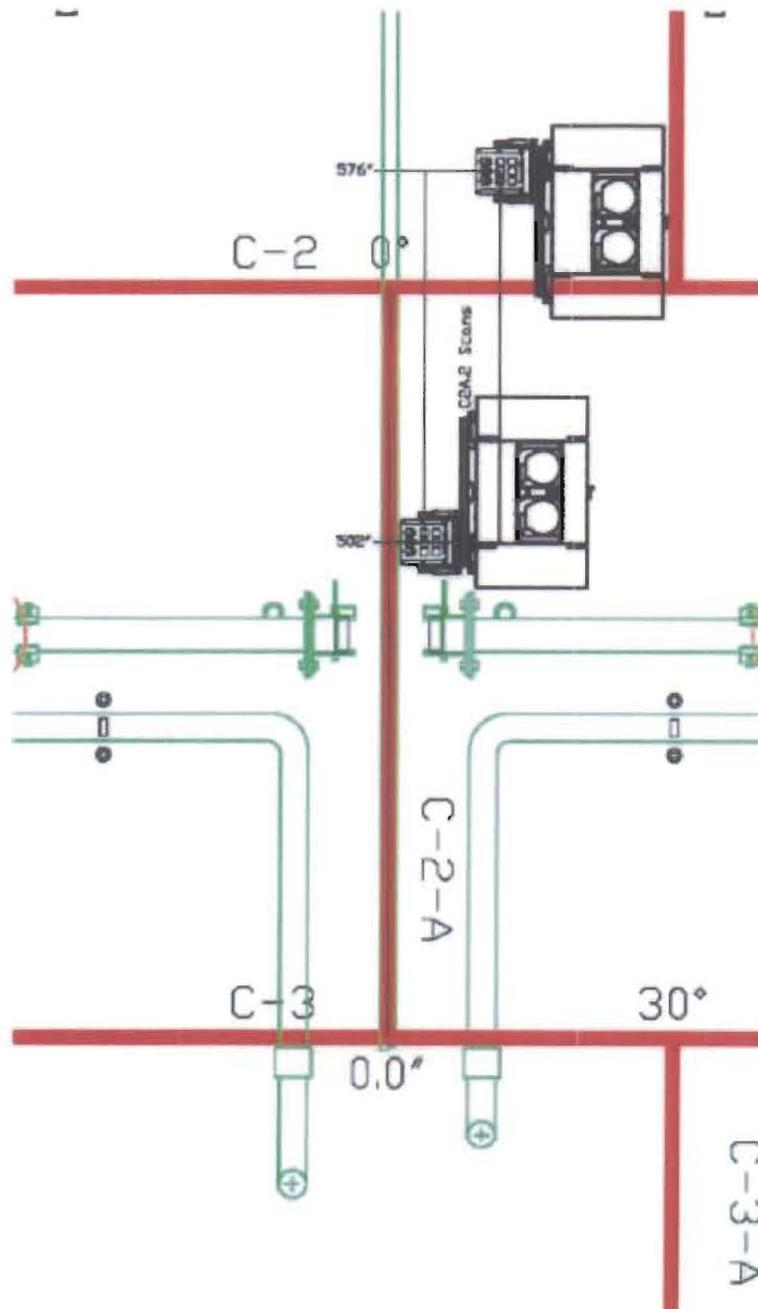
Weld Identification No.	Description	Limitation	Coverage	Examination Results
Weld C-2-A 0 degree Az. Site Elevation 189' 7" to 189' 7"	Reactor Vessel Longitudinal Weld Non- beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by the Upper guide rod located at 0 degrees, feed water spargers and core spray piping. See Figure RR-01-01 for depiction of obstructions.	12.3%	No Recordable Indications
Weld C-2-B 120 degree Az Site Elevation 177' 1" to 189' 7"	Reactor Vessel Longitudinal Weld Non- beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by feed water spargers and core spray piping. See Figure RR-01-02 for depiction of obstructions.	77.3%	No Recordable Indications
Weld C-2-C 240 degree Az Site Elevation 177' 1" to 189'. 7"	Reactor Vessel Longitudinal Weld Non- beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by feed water spargers and core spray piping. See Figure RR-01-03 for depiction of obstructions.	78.4%	No Recordable Indications
Weld C-3-A 30 degree Az Site Elevation 164' 6" to 177' 1"	Reactor Vessel Longitudinal Weld I Located in beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by specimen brackets and jet pump riser braces. See Figure RR-01-04 for depiction of obstructions.	69.3%	No Recordable Indications
Weld C-3-B 150 degree Az Site Elevation 164' 6" to 177' 1")	Reactor Vessel Longitudinal Weld Located in beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by jet pump riser braces. See Figure RR-01-05 for depiction of obstructions.	90.0%	No Recordable Indications.

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Class 1 Vessel Welds
Table RR-01-1
(continued)

Identification No. / Exam. History	Description	Limitation	Coverage	Examination Results
Weld C-3-C 270 degree Az Site Elevation 164' 6" to 177' 1")	Reactor Vessel Longitudinal Weld Located in beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by jet pump riser braces. See Figure RR-01-06 for depiction of obstructions.	83.0%	No Recordable Indications.
Weld C-4-A 18 degree Az Site Elevation 152' 1" to 164' 6")	Reactor Vessel Longitudinal Weld Located in beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by gusset plates. See Figure RR-01-07 for depiction of obstructions.	82.3%	No Recordable Indications
Weld C-4-B 138 degree Az Site Elevation 152' 1" to 164' 6")	Reactor Vessel Longitudinal Weld Located in beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by gusset plates and shroud repair hardware. See Figure RR-01-09 for depiction of obstructions	71.5%	No Recordable Indications.
Weld C-4-C 258 degree Az Site Elevation 152' 1" to 164' 6")	Reactor Vessel Longitudinal Weld Located in beltline region	Limited UT examination coverage due to adjacent permanently mounted equipment in the reactor vessel. Obstructions are caused by gusset plates. See Figure RR-01-10 for depiction of obstructions.	82.3%	No Recordable Indications.

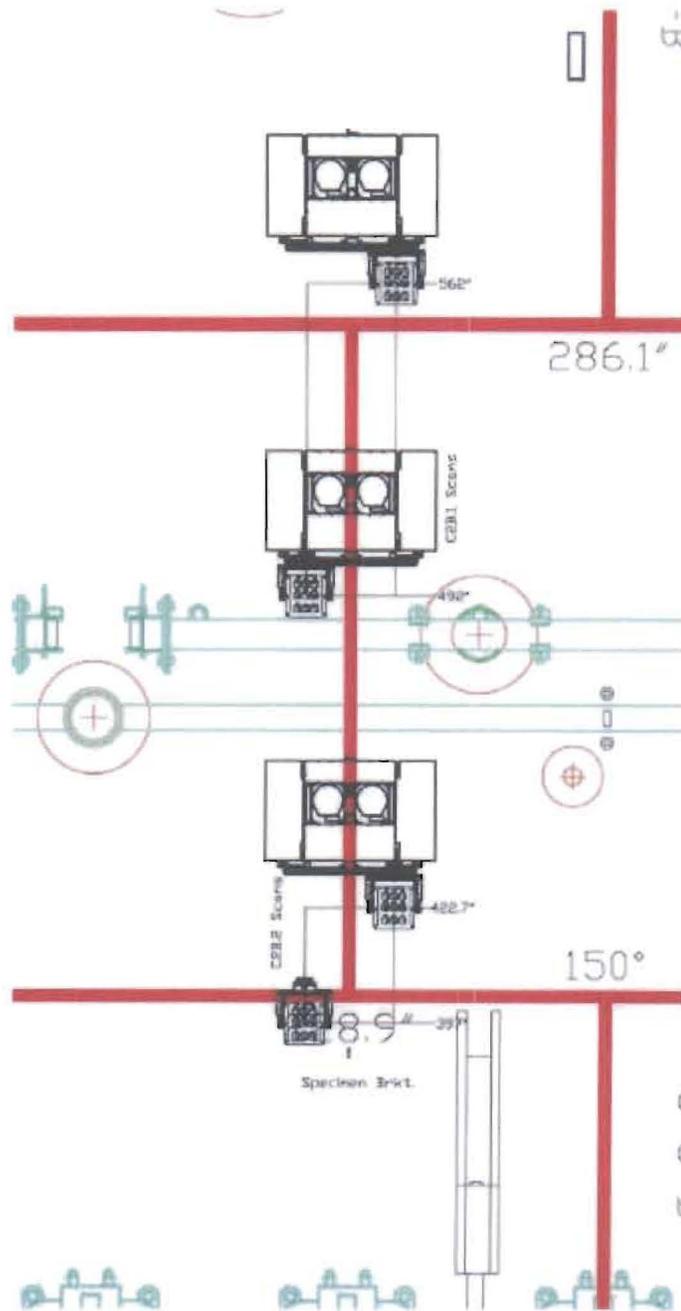
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-2-A (as viewed from vessel inside diameter)

Figure RR-01-01

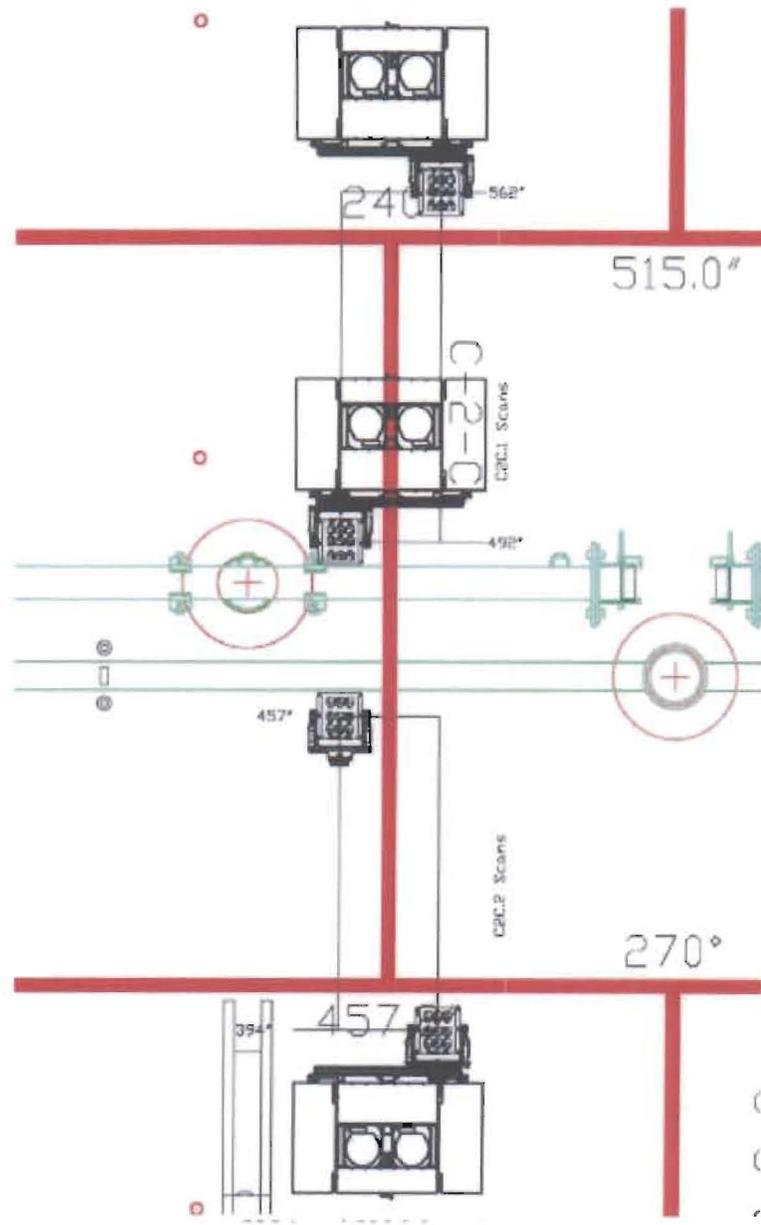
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-2-B (as viewed from vessel inside diameter)

Figure RR-01-02

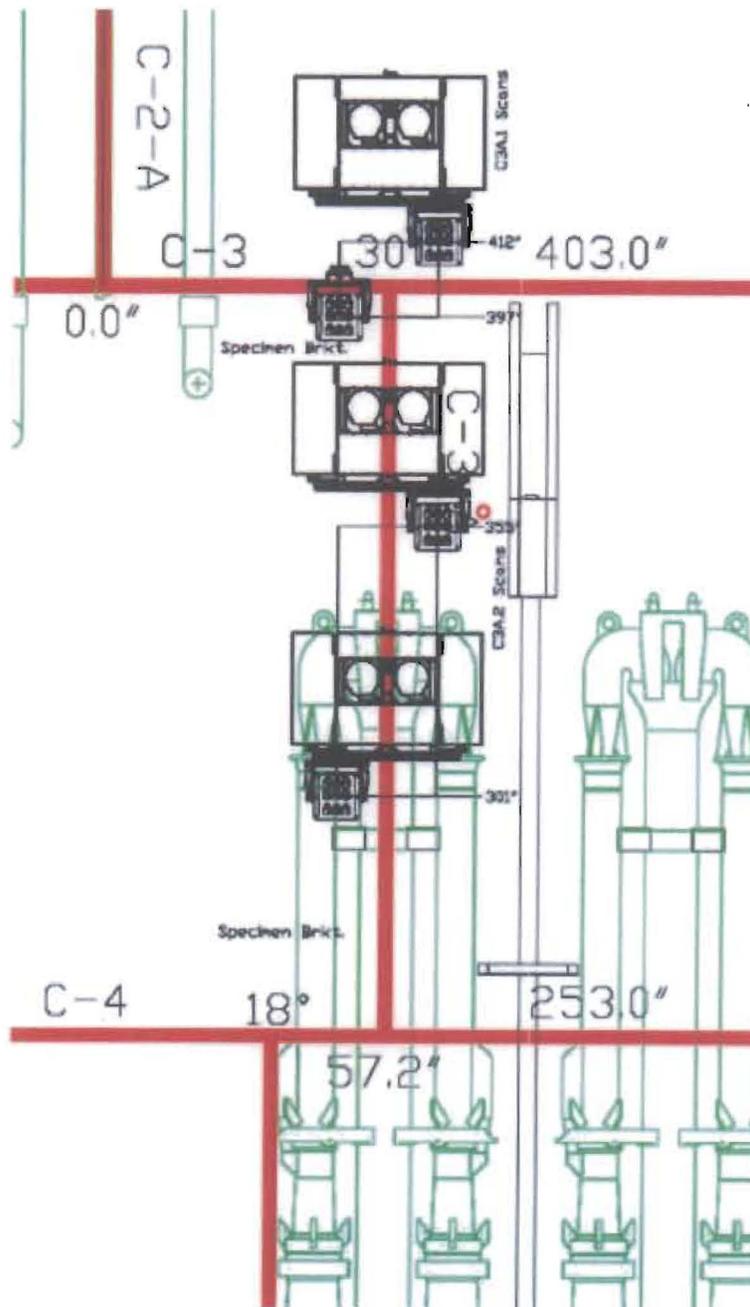
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-2-C (as viewed from vessel inside diameter)

Figure RR-01-03

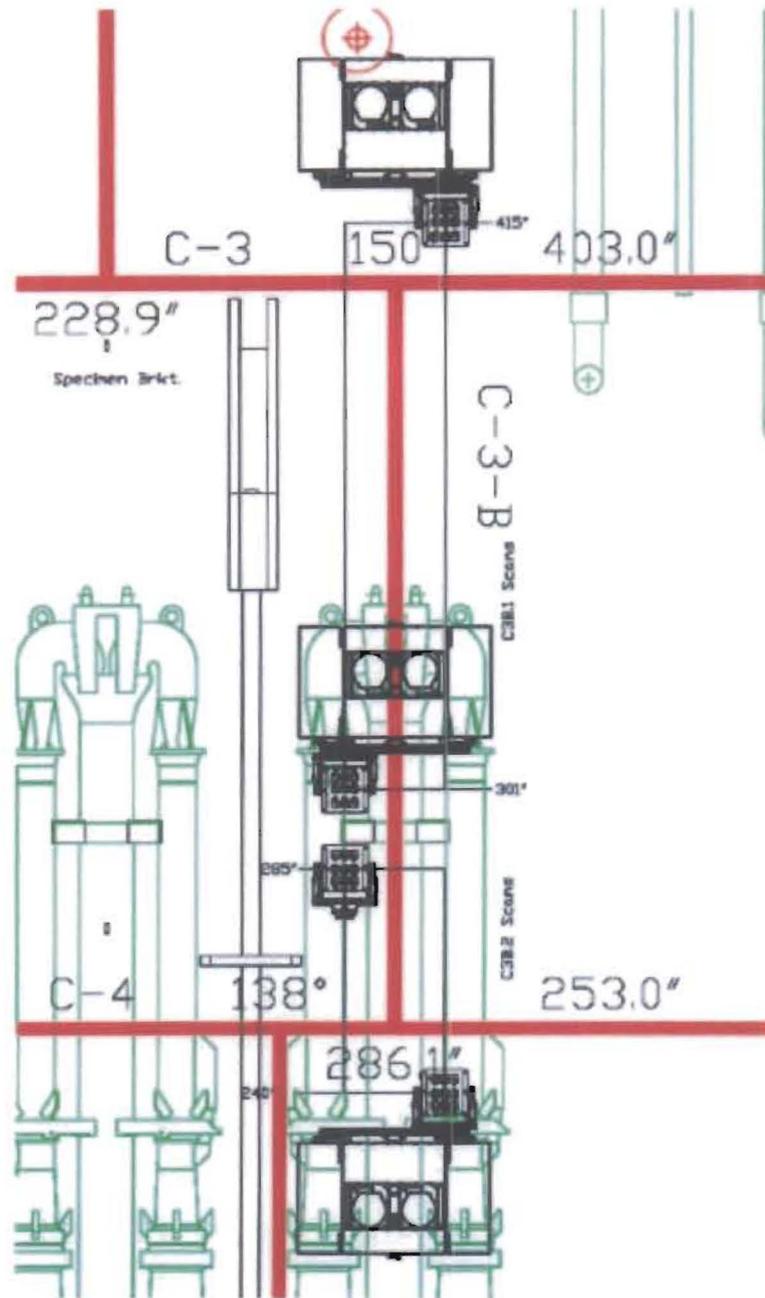
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-3-A (as viewed from vessel inside diameter)

Figure RR-01-04

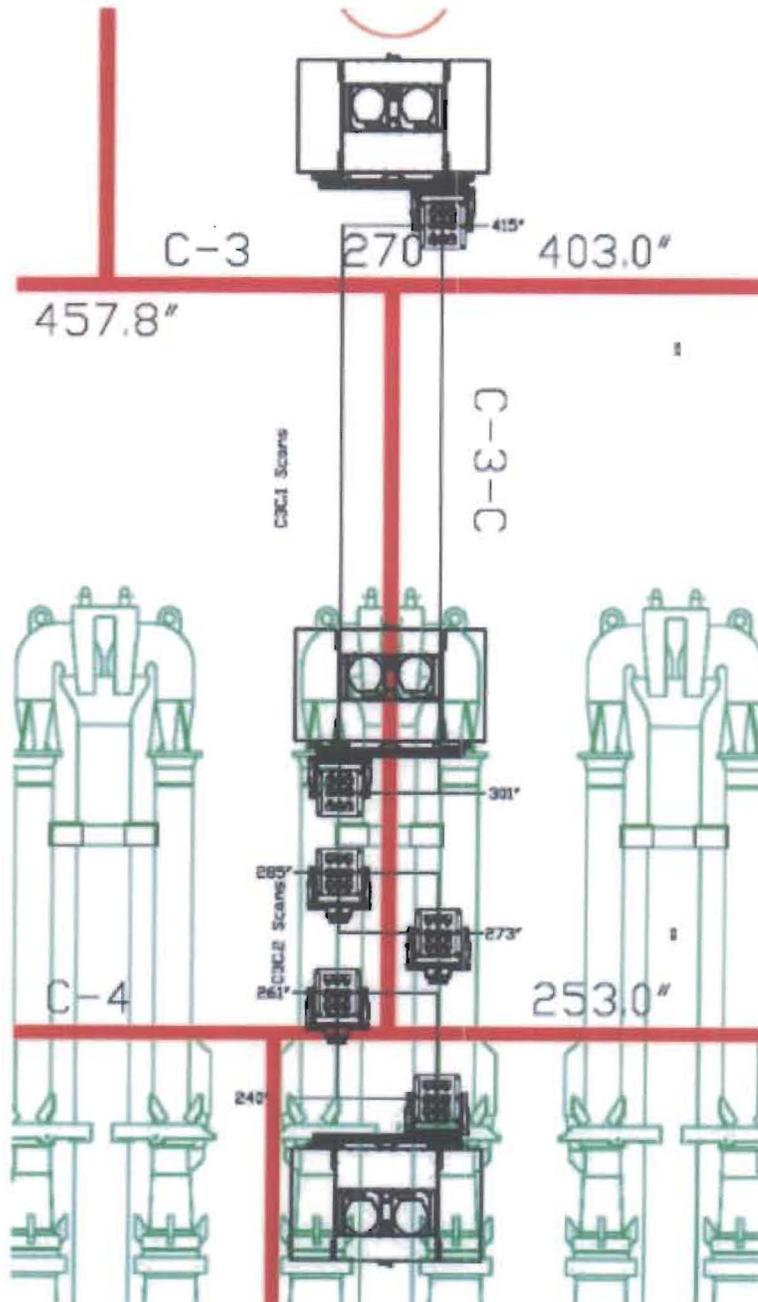
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-3-B (as viewed from vessel inside diameter)

Figure RR-01-05

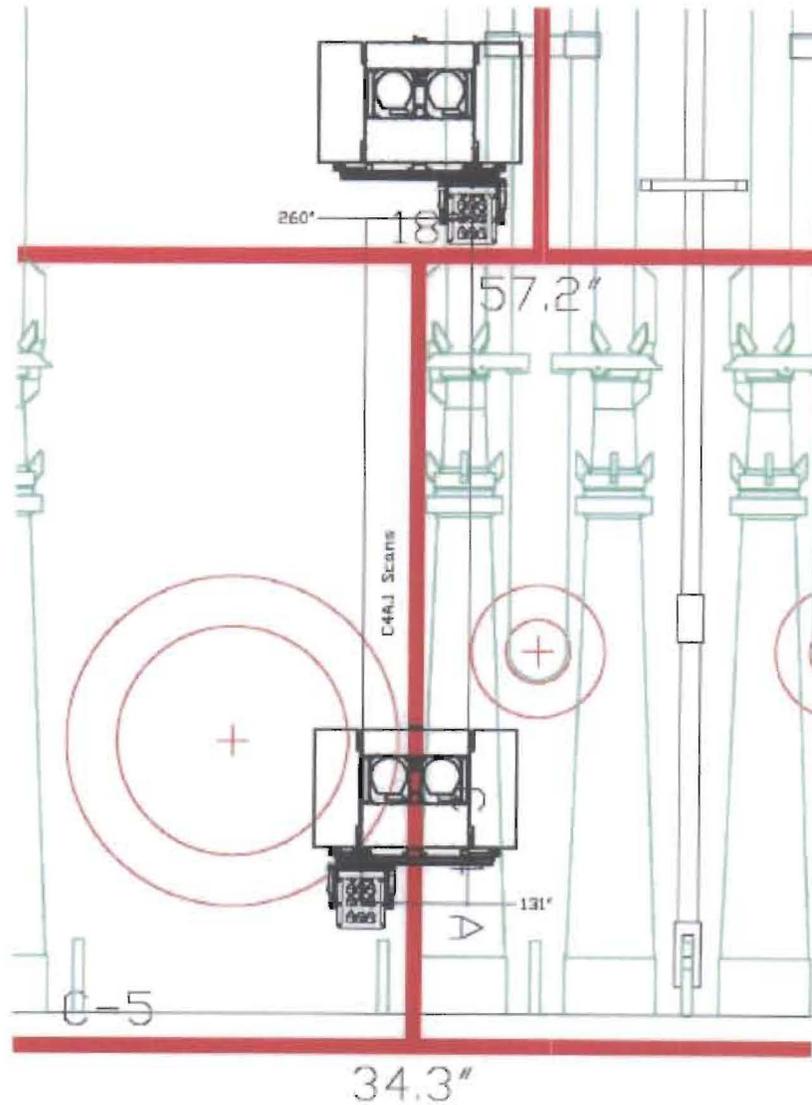
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-3-C (as viewed from vessel inside diameter)

Figure RR-01-06

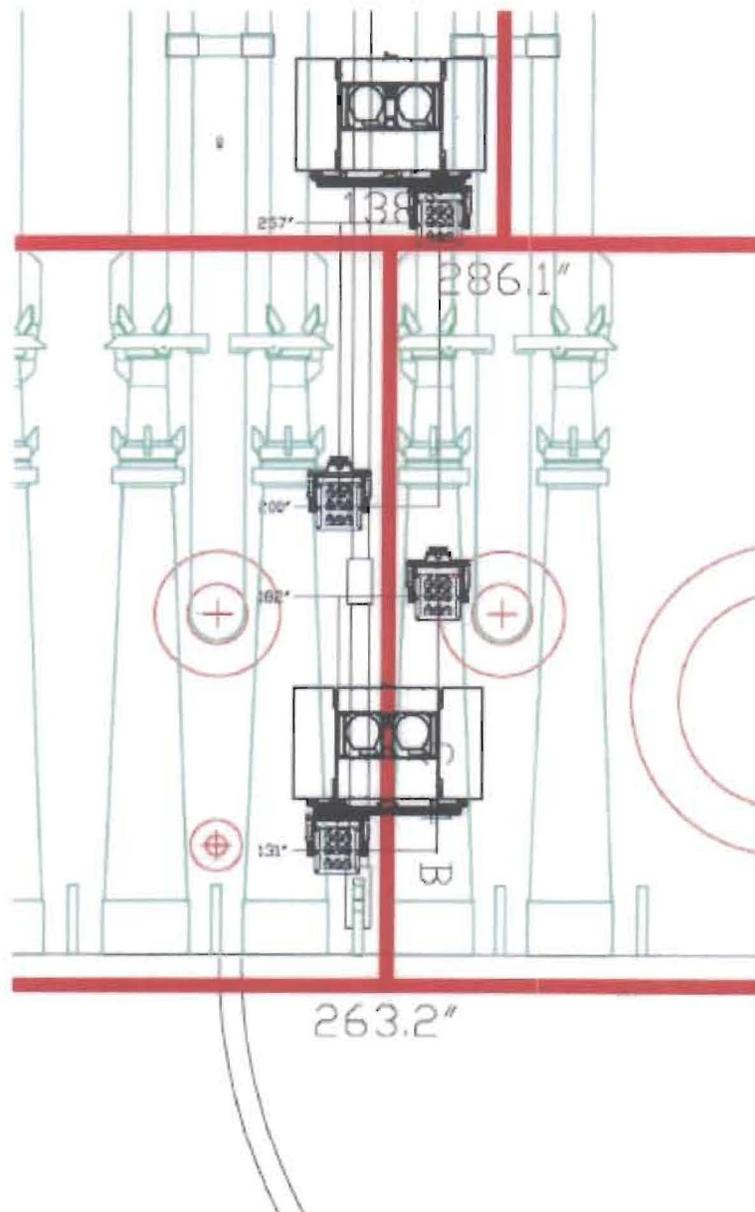
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-4-A (as viewed from vessel inside diameter)

Figure RR-01-07

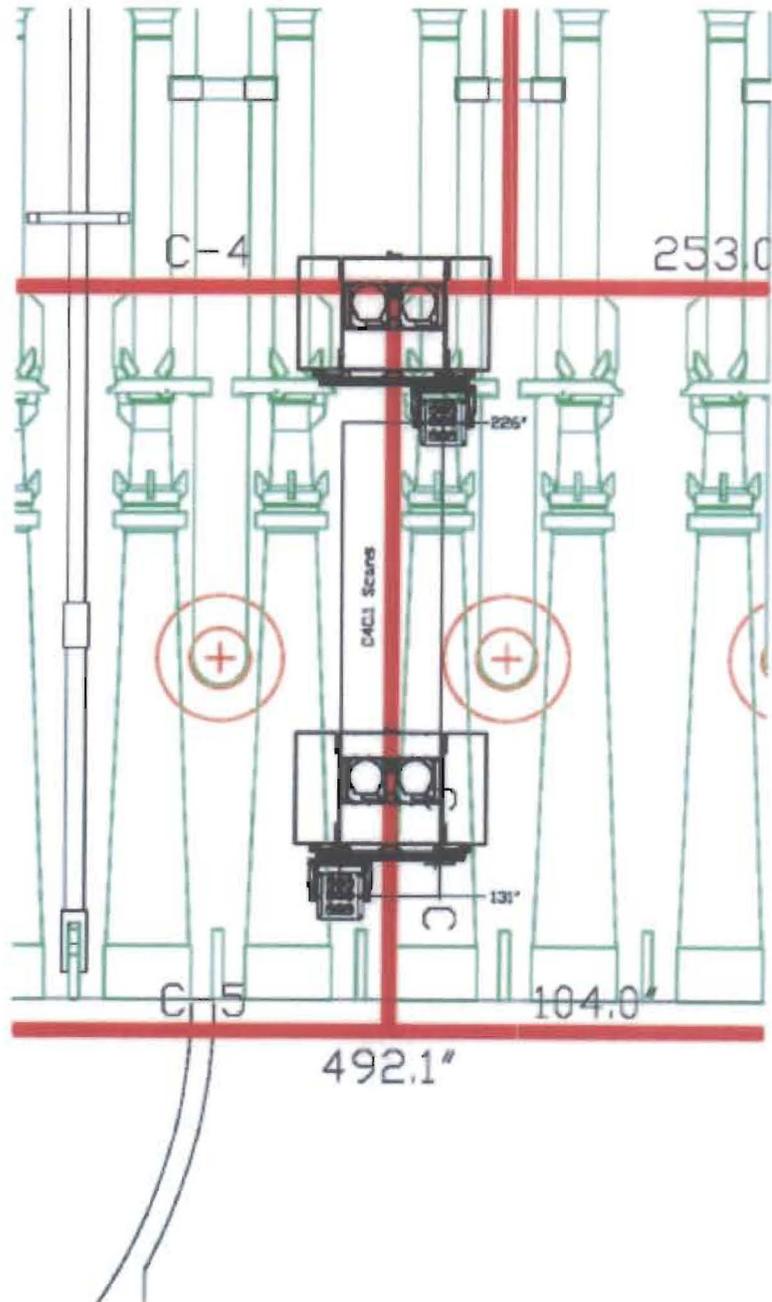
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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-4-B (as viewed from vessel inside diameter)

Figure RR-01-08

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Sketch of obstructions for Hatch 1 RPV longitudinal weld C-4-C (as viewed from vessel inside diameter)

Figure RR-01-09