

10 CFR 50.55a

RS-10-113
July 1, 2010

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

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Subject: Second Inservice Inspection Interval Relief Requests 4216, 4217, 4218, 4219, 4220, 4221, and 4222

In accordance with 10 CFR 50.55a, "Codes and standards," paragraphs (g)(5)(iv), Exelon Generation Company, LLC (EGC), hereby requests NRC approval of the attached relief requests associated with the Second Inservice Inspection (ISI) Interval for Clinton Power Station, Unit 1 (CPS). Relief is requested due to the impracticality of satisfying the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components." The second ISI interval for CPS ended June 30, 2010.

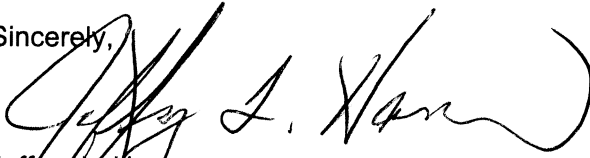
The relief requests are based on the limitations that precluded completion of full Code examination requirements of ASME Class 1 and 2 welds during the second interval. Code examination of the welds is limited due to the materials of construction and design configurations.

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There are no regulatory commitments contained within this letter.

Should you have any questions concerning this letter, please contact Mr. Mitchel A. Mathews at (630) 657-2819.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey L. Hansen". The signature is fluid and cursive, with a large loop at the end.

Jeffrey L. Hansen
Manager – Licensing
Exelon Generation Company, LLC

Attachments:

1. 10 CFR 50.55a Request Number 4216
2. 10 CFR 50.55a Request Number 4217
3. 10 CFR 50.55a Request Number 4218
4. 10 CFR 50.55a Request Number 4219
5. 10 CFR 50.55a Request Number 4220
6. 10 CFR 50.55a Request Number 4221
7. 10 CFR 50.55a Request Number 4222

ATTACHMENT 1
10 CFR 50.55a Request Number 4216
Relief Requested In Accordance With 10 CFR 50.55a(g)(5)(iii)
-- Inservice Inspection Impracticability --
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1. ASME Code Component(s) Affected

Code Class:	2
Reference	IWC-2500
	Code Case N-460
Component Number:	RHR-A-2
Examination Category:	C-G
Item Number:	C6.10
Description:	Surface examination of Residual Heat Removal Pump "A" Casing Weld

2. Applicable Code Edition and Addenda

Clinton Power Station (CPS) second 10-year inspection interval ended on June 30, 2010, and complied with the 1989 Edition of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI and No Addenda.

3. Applicable Code Requirement

ASME Code Class 2 pump casing weld examination requirements are given in Subsection IWC, Table IWC-2500-1, Examination Category C-G, Item Number C6.10. The method of examination is surface examination.

4. Impracticability of Compliance

Code required coverage is impractical for this weld due to an instrument line interference with this examination. Relief is requested from performing surface examination of approximately 3% of the examination area for this weld since only approximately 87% of the examination area can be examined by surface examination method. A permanently installed instrument line interferes with the surface examination of this weld. To perform a full Code required examination of this weld, the instrument line would have to be cut out to gain access.

5. Burden Caused by Compliance

A permanently installed instrument line interferes with the surface examination of this weld. To perform a full Code required examination of this weld, the instrument line would have to be cut out to gain access.

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6. Proposed Alternative and Basis for Use

Proposed Alternative:

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from performing the required examination on 100% of the examination area. Code Case N-460 (Reference 1) allows a reduction in the examination area of up to 10%. This Code Case N-460 was approved and has been incorporated into Regulatory Guide (RG) 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15. A permanently installed instrument line interferes with the surface examination of this weld. CPS proposes to perform the surface examination of the accessible area to the maximum extent feasible without removing the permanently installed instrument line, which would be approximately 87% of the required examination area. CPS evaluated the feasibility of performing ultrasonic examination on the inaccessible weld to increase the coverage. Based on the current UT procedures, mockups, and calibration standard UT examination can not be demonstrated or qualified to the satisfaction of the ASME Code requirements to produce a meaningful and reliable results.

Basis for Use:

Code Case N-460 has been approved and incorporated into RG 1.147. This Code Case allows a reduction in the examination area of up to 10%. Another 3% reduction in the examination area would not significantly reduce the effectiveness of the examination for verifying weld integrity. To examine the Code required 3% additional examination area, CPS personnel would have to cut out the noted instrument line and weld it back. Further, the effort required would result in unnecessary radiation exposure of approximately 1.5 rem to plant personnel. Relative to the little or negligible safety benefit gained by examining the obstructed weld area, removal and repair of the instrument line, along with the radiation exposure incurred, is not justified. There were no indications identified in the 87% area examined by surface examination.

7. Duration of Proposed Alternative

The proposed alternative is requested to be utilized for the CPS Second 10-year Inservice Inspection Interval.

8. Precedents

- An identical relief request was approved for use for the first 10-year inservice inspection interval at CPS as Relief Request Number 4013 as discussed in Reference 2.
- A similar relief request was approved for PSEG /Hope Creek as discussed in Reference 3.

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9. References

1. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1
2. Letter from Gail H. Marcus (NRC) to Paul J. Telthorst (CPS), "Evaluation of ASME Section XI Relief Requests Regarding Performance of Non-Destructive Examinations for the First 120-Month Inservice Inspection Interval – Clinton Power Station, Unit 1 (TAC No. M95671)," dated December 4, 1996
3. Letter from U. S. Nuclear Regulatory Commission (NRC) to PSEG Nuclear, "Safety Evaluation of Relief Request for the Second 10-Year Interval of the Inservice Inspection Program for Hope Creek Generating Station (TAC NO. ME0230)," dated November 19, 2009.

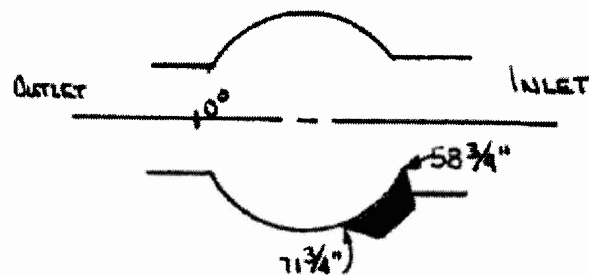


Figure 1: Weld RHR-A-2

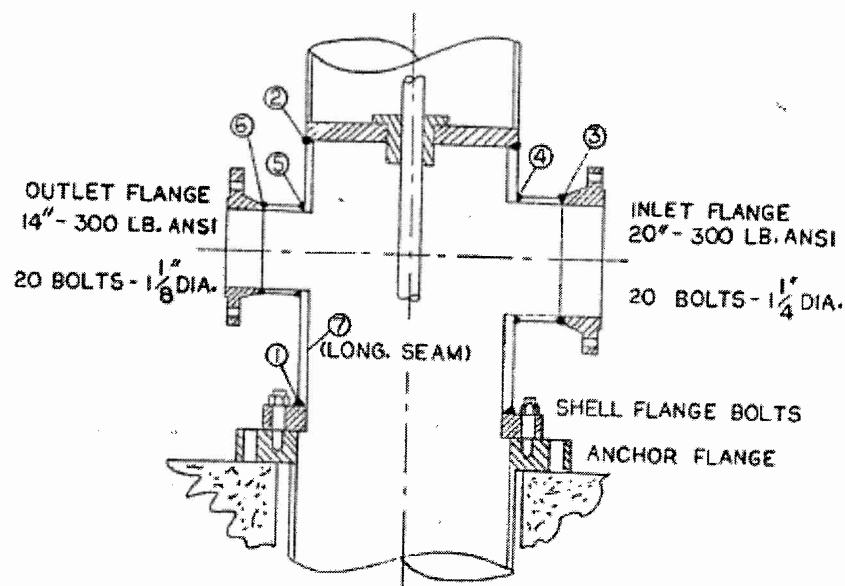


Figure 2: RHR Pump

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10 CFR 50.55a Request Number 4217
Relief Requested In Accordance With 10 CFR 50.55a(g)(5)(iii)
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1. ASME Code Component(s) Affected

Code Class: 1
Reference: IWB-2500
Code Case N-460
Component Number: CH-C-2
Examination Category: B-A
Item Number: B1.40
Description: Reactor Pressure Vessel (RPV) Head to Flange Weld

2. Applicable Code Edition and Addenda

Clinton Power Station (CPS) second 10-year inspection interval ended on June 30, 2010, and complied with the 1989 Edition of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI and No Addenda.

3. Applicable Code Requirement

Class 1 Reactor Pressure Vessel (RPV) Head to Flange Weld examination requirements are given in Subsection IWB, Table IWB-2500-1, Examination Category B-A, Item Number B1.40. The method of examination is surface and ultrasonic examination.

4. Impracticability of Compliance

Code required ultrasonic examination (UT) coverage is impractical for this weld due to the RPV Head flange configuration/geometry. The UT examination can only be performed from the head side only due to the flange configuration. Relief is requested from performing the required UT examination volume. To perform a full Code required UT examination of this weld, the RPV Head flange would have to be modified. The following describe the UT coverage:

- First 1/3 length of the weld (from 0 degrees to 120 degrees) – 53.8%
- Second 1/3 length of the weld (from 120 degrees to 240 degrees) – 79.5%
- Third or Last 1/3 length of the weld (from 240 degrees to 360 degrees) – 84.0%

It should be noted that the examination performed from 0 deg to 120 deg (performed in 2002), the first 0.25 inches from the outside diameter surface was not considered examined due to near field effect.

5. Burden Caused by Compliance

The RPV Head flange configuration/geometry does not allow CPS to perform UT examination from flange side. To perform a full Code required UT examination of this weld, the RPV Head flange would have to be modified.

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6. Proposed Alternative and Basis for Use

Proposed Alternative:

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from performing the required examination on 100% of the examination area.

Code Case N-460 allows a reduction in the examination area of up to 10%. This Code Case N-460 has been approved and incorporated into Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15. The RPV Head flange configuration/geometry does not allow UT examination from the flange side. CPS proposes to perform the UT examination from the RPV Head side only and perform UT examination on this weld to the maximum extent feasible. CPS evaluated to determine if remote auto UT system could be utilized to increase the examination volume. It was concluded that due to the size of the auto UT equipment the examination volume would have been less.

Basis for Use:

Performance of UT examination from the RPV Head side only provides reasonable assurance of the structural integrity of the entire weld. CPS has performed UT examination on this weld to the maximum extent feasible. It should be noted that during initial plant construction, the entire weld was radiographed and the results were acceptable. The weld was also ultrasonically examined in accordance with the Preservice Inspection Plan, and the results of that examination were also acceptable.

Due to the bend radius on the flange side and the thickness of the flange the following examination volumes can be scanned:

- From 0 deg to 120 deg -- Composite coverage of 53.8%
- From 120 deg to 240 deg -- Composite coverage of 79.5%
- From 240 deg to 360 deg -- Composite coverage of 84.0%

It should be noted that the examination performed from 0 deg to 120 deg (performed in 2002), the first 0.25 inches from the outside diameter surface was not considered examined due to near field effect. There were no indications identified during the examinations of the above three (3) areas. As shown above, performance of the above examinations provides reasonable assurance that the structural integrity of the entire weld.

7. Duration of Proposed Alternative

The proposed alternative is requested to be utilized for the CPS Second 10-year Inservice Inspection Interval.

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8. Precedents

- An identical relief request was approved for use for the first 10-year inservice inspection interval at CPS as Relief Request Number 4005 as discussed in Reference 2.
- A similar relief request was approved for PSEG /Hope Creek as discussed in Reference 3.

9. References

1. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1
2. Letter from Gail H. Marcus (NRC) to Paul J. Telthorst (CPS), "Evaluation of ASME Section XI Relief Requests Regarding Performance of Non-Destructive Examinations for the First 120-Month Inservice Inspection Interval – Clinton Power Station, Unit 1 (TAC No. M95671)," dated December 4, 1996
3. Letter from U. S. Nuclear Regulatory Commission (NRC) to PSEG Nuclear, Safety Evaluation of Relief Request for the Second 10-Year Interval of the Inservice Inspection Program for Hope Creek Generation Station (TAC NO. ME0230), dated November 19, 2009

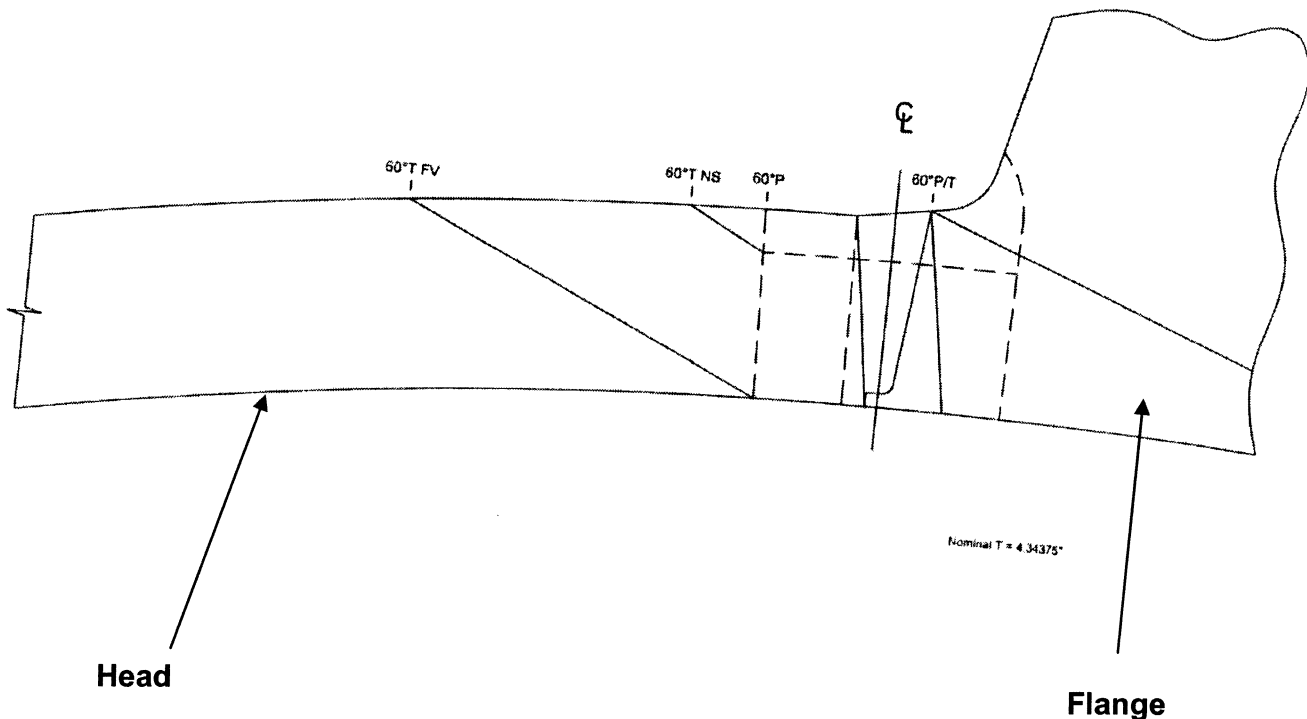


Figure 1: CPS Head to Flange

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10 CFR 50.55a Request Number 4218
Relief Requested In Accordance With 10 CFR 50.55a(g)(5)(iii)
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1. ASME Code Component(s) Affected

Code Class: 1
Reference: IWB-2500
Code Case N-460
Component Number: RPV-C5
Examination Category: B-A
Item Number: B1.30
Description: Reactor Pressure Vessel (RPV) Shell to Flange Weld

2. Applicable Code Edition and Addenda

Clinton Power Station (CPS) second 10-year inspection interval ended on June 30, 2010, and complied with the 1989 Edition of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI and No Addenda.

3. Applicable Code Requirement

Class 1 Reactor Pressure Vessel (RPV) Shell to Flange Weld examination requirements are given in Subsection IWB, Table IWB-2500-1, Examination Category B-A, Item Number B1.30. The method of examination is ultrasonic examination.

4. Impracticability of Compliance

Code required ultrasonic examination (UT) coverage is impractical for this weld due to the RPV Shell Flange configuration/geometry. The UT examination can only be performed from the shell side only due to the flange configuration. Relief is requested from performing the required UT examination volume. To perform a full Code required UT examination of this weld, the RPV Shell Flange would have to be modified. The following describe the UT coverage:

- First 1/2 length of the weld (from 0 degrees to 180 degrees) – 52.2%
- Second 1/2 length of the weld (from 180 degrees to 360 degrees) – 75.0%

It should be noted that the examination performed from 0 deg to 180 deg (performed in 2002), the first 0.25 inches from the outside diameter surface was not considered examined due to near field effect.

5. Burden Caused by Compliance

The RPV Shell Flange configuration/geometry does not allow CPS to perform UT examination from flange side. To perform a full Code required UT examination of this weld, the RPV Shell flange would have to be modified.

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6. Proposed Alternative and Basis for Use

Proposed Alternative:

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from performing the required examination on essentially 100% of the examination area. Code Case N-460 allows a reduction in the examination area of up to 10%. This Code Case N-460 has been approved and incorporated into Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15. The RPV Shell Flange configuration/geometry does not allow UT examination from the flange side. CPS proposes to perform the UT examination from the RPV Shell side only and perform UT examination on this weld to the maximum extent feasible. CPS evaluated to determine if remote auto UT system could be utilized to increase the examination volume. It was concluded that due to the size of the auto UT equipment the examination volume would have been less.

Basis for Use:

Performance of UT examination from the RPV Shell side only provides reasonable assurance of the structural integrity of the entire weld. CPS has performed UT examination on this weld to the maximum extent feasible. It should be noted that during initial plant construction, the entire weld was radiographed and the results were acceptable. The weld was also ultrasonically examined in accordance with the Preservice Inspection Plan, and the results of that examination were also acceptable.

Due to the bend radius on the flange side and the thickness of the flange the following examination volumes can be scanned:

- From 0 deg to 180 deg -- Composite coverage of 52.2%
- From 180 deg to 360 deg -- Composite coverage of 75.0%

It should be noted that the examination performed from 0 deg to 180 deg (performed in 2002), the first 0.25 inches from the outside diameter surface was not considered examined due to near field effect. There was no indication identified during the examinations of the above two (2) areas. As shown above, performance of the above examinations provides reasonable assurance of the structural integrity of the entire weld.

7. Duration of Proposed Alternative

The proposed alternative is requested to be utilized for the CPS Second 10-year Inservice Inspection Interval.

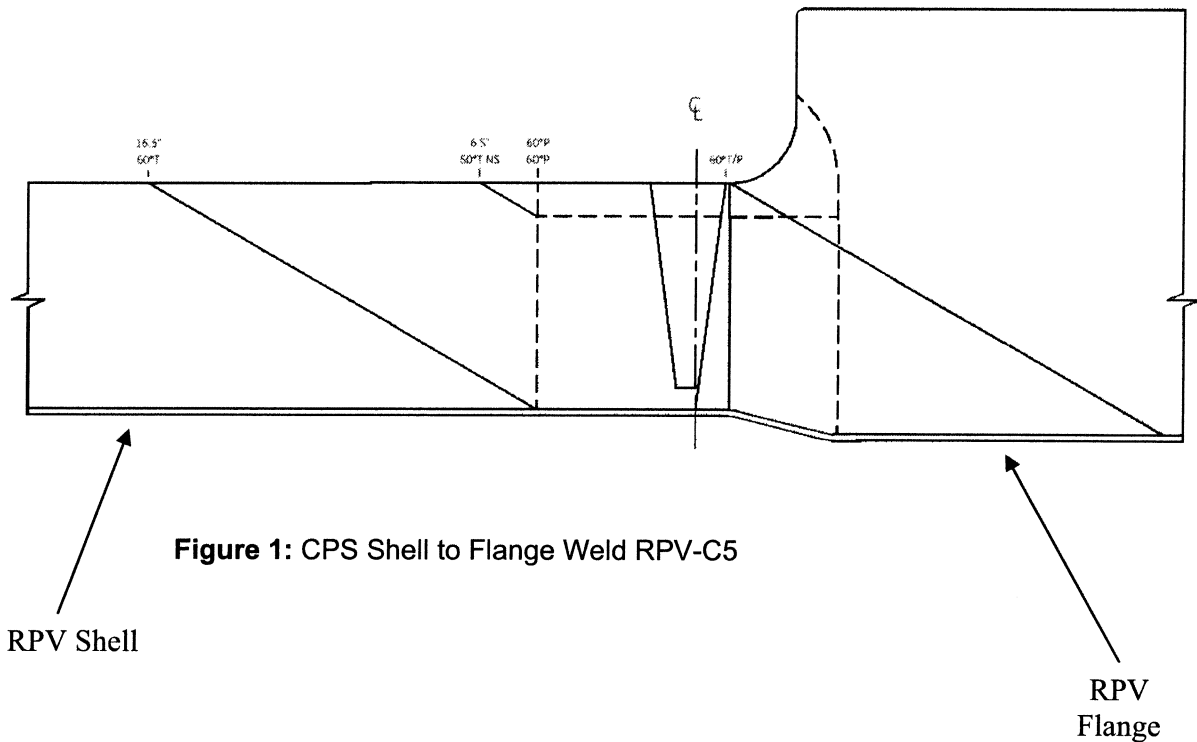
8. Precedents

An identical relief request was approved for use for the first 10-year inservice inspection interval at CPS as Relief Request Number 4015 as discussed in Reference 2.

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9. References

1. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1.
2. Letter from U. S. Nuclear Regulatory Commission (NRC) to AmerGen (CPS), "Safety Evaluation of Relief Request for the First 10-Year Interval of the Inservice Inspection Program for Clinton Power Station (TAC NO. MA6192)," dated March 28, 2000.



ATTACHMENT 4
10 CFR 50.55a Request Number 4219
Relief Requested In Accordance With 10 CFR 50.55a(g)(5)(iii)
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1. ASME Code Component(s) Affected

Code Class: 1
Reference: IWB-2500
Code Case N-460
Component Number: See Table 1
Examination Category: B-D
Item Number: B3.90
Description: Reactor Pressure Vessel (RPV) Nozzle to Shell Welds

2. Applicable Code Edition and Addenda

Clinton Power Station (CPS) second 10-year inspection interval ended on June 30, 2010, and complied with the 1989 Edition of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI and No Addenda.

3. Applicable Code Requirement

Class 1 Reactor Pressure Vessel (RPV) Nozzle to Shell Weld examination requirements are given in Subsection IWB, Table IWB-2500-1, Examination Category B-D, Item Number B3.90. The method of examination is ultrasonic examination.

4. Impracticability of Compliance

Code required coverage is impractical for the subject components due to nozzle configuration and therefore portions of the Code required examinations volume can not be completely examined with ultrasonic techniques. The curvature of the blend radius of nozzle prevents ultrasonic scanning of the weld from the nozzle side. See Table 1 for percent UT coverage.

5. Burden Caused by Compliance

Altering the reactor pressure vessel or nozzle configuration would require design modifications that would impose a significant burden to CPS.

6. Proposed Alternative and Basis for Use

Proposed Alternative:

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from performing the required examination on 100% of the examination area. Code Case N-460 allows a reduction in the examination area of up to 10%. This Code Case N-460 has been approved and

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incorporated into Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15.

No alternative provisions are practical for the subject welds. Remote auto ultrasonic examinations were performed to the maximum extent practical with no reportable indications. No other technique is available since remote UT was utilized.

Basis for Use:

Performance of ultrasonic examination of the welds to the maximum extent feasible is sufficient for confirming weld integrity and therefore, provides an acceptable level of quality and safety.

7. Duration of Proposed Alternative

The proposed alternative is requested to be utilized for the CPS Second 10-year Inservice Inspection Interval.

8. Precedents

- Relief was previously approved for use for the first 10-year inservice inspection interval at CPS as Relief Request Numbers 4006 and 4014 as discussed in Reference 2 and Reference 3, respectively.
- A similar relief request was approved for PSEG /Hope Creek as discussed in Reference 4.

9. References

1. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1
2. Letter from Gail H. Marcus (NRC) to Paul J. Telthorst (CPS), "Evaluation of ASME Section XI Relief Requests Regarding Performance of Non-Destructive Examinations for the First 120-Month Inservice Inspection Interval – Clinton Power Station, Unit 1 (TAC No. M95671)," dated December 4, 1996
3. Letter from U. S. Nuclear Regulatory Commission (NRC) to AmerGen (CPS), Safety Evaluation of Relief Request for the First 10-Year Interval of the Inservice Inspection Program for Clinton Power Station (TAC NO. MA6192), dated March 28, 2000.
4. Letter from U. S. Nuclear Regulatory Commission (NRC) to PSEG Nuclear, Safety Evaluation of Relief Request for the Second 10-Year Interval of the Inservice Inspection Program for Hope Creek Generation Station (TAC NO. ME0230), dated November 19, 2009

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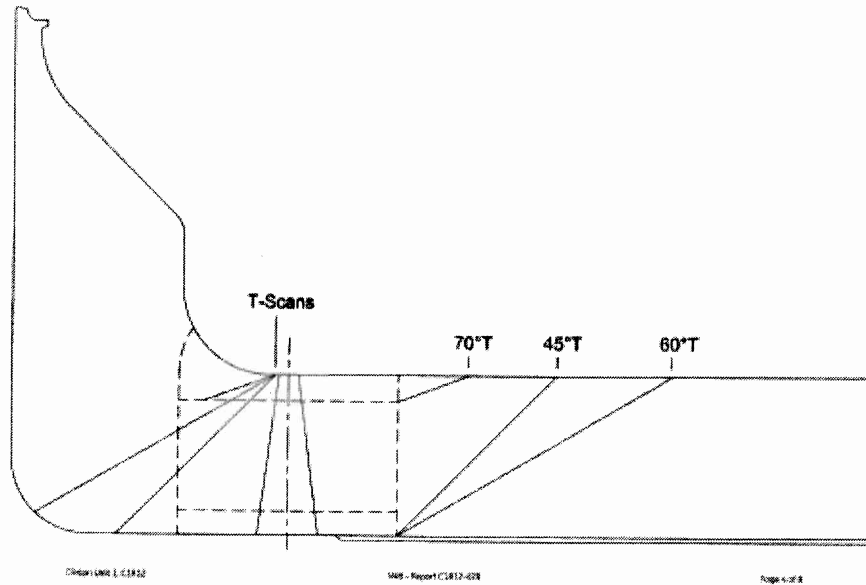


Figure 1: Nozzle to Shell Weld (Typical)

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Table 1: Examination Type and Coverage By Weld Number

Component Number	Description	Exam	Code Coverage Achieved (%)
N1B	Nozzle to Shell	UT	82.7
N2B	Nozzle to Shell	UT	81.1
N2C	Nozzle to Shell	UT	80.6
N2D	Nozzle to Shell	UT	80.7
N2E	Nozzle to Shell	UT	81.0
N2F	Nozzle to Shell	UT	65.3
N2G	Nozzle to Shell	UT	65.3
N3A	Nozzle to Shell	UT	59.0
N3C	Nozzle to Shell	UT	59.0
N4A	Nozzle to Shell	UT	65.6
N4B	Nozzle to Shell	UT	78.5
N4C	Nozzle to Shell	UT	78.5
N4D	Nozzle to Shell	UT	65.6
N5A	Nozzle to Shell	UT	56.5
N6B	Nozzle to Shell	UT	77.9
N7	Nozzle to Shell	UT	52.0
N8	Nozzle to Shell	UT	66.0
N9A	Nozzle to Shell	UT	55.7
N10	Nozzle to Shell	UT	84.9
N16	Nozzle to Shell	UT	86.1

ATTACHMENT 5
10 CFR 50.55a Request Number 4220
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1. ASME Code Component(s) Affected

Code Class: 1
Reference: IWB-2500
Code Case N-460
Component Number: CRDH-2
Examination Category: B-O
Item Number: B14.10
Description: 10% Peripheral Reactor Vessel (RPV) Pressure Retaining Welds

2. Applicable Code Edition and Addenda

Clinton Power Station (CPS) second 10-year inspection interval ended on June 30, 2010, and complied with the 1989 Edition of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI and No Addenda.

3. Applicable Code Requirement

Class 1 Reactor Vessel (RPV) Pressure Retaining Welds in 10% Peripheral Control Rod Drive Housing (CRDH) examination requirements are given in Subsection IWB, Table IWB-2500-1, Examination Category B-O, Item Number B14.10. The method of examination is surface examination.

4. Impracticability of Compliance

There are two (2) welds on each CRDH, CRDH-2 (flange to pipe refer to lower weld) and CRDH-3 (pipe to pipe refers to upper weld). Upper welds are accessible and examined 100%. Lower welds are partially accessible and could be examined only 50%.

Limited accessibility for all forty (40) lower welds on peripheral CRDH are due to inherent obstructions caused by surrounding cables, tubing and permanent foundation beams which are not practical to remove or replace.

5. Burden Caused by Compliance

In order to perform the Code required examinations Clinton Power Station would have to remove permanent structures to gain access for examination.

6. Proposed Alternative and Basis for Use

Proposed Alternative:

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from performing the required examination on 100% of the examination area. Code Case N-460 allows a reduction in the examination area of up to 10%. This Code Case N-460 has been approved and

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incorporated into Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15.

Each of the 40 peripheral CRDH has two (2) welds. Based on Code requirements eight (8) welds would need to be examined. Assuming Code Case N-460 minimum coverage allowable of more than 90%, eight (8) full weld examinations equals a minimum requirement of more than 720 total percentage points. Clinton Power Station is proposing to examine four (4) welds completely 100% and 10 more welds partially, such that the aggregate total is greater than or equal to full examination coverage (i.e., 720 total percentage points).

Clinton Power Station has performed a complete surface examination on four (4) upper welds, (i.e., 100% coverage) and a partial examination on ten (10) lower welds, (i.e., 50% each). A total of 900 percentage points versus the required 720 percentage points were examined by surface examination method and no reportable indications were identified.

Basis for Use:

Completely examining four (4) upper welds and partially examining on ten (10) lower welds (total of 900 percentage points) will essentially meet the Code requirements. This will provide reasonable assurance of the CRDH integrity.

7. Duration of Proposed Alternative

The proposed alternative is requested to be utilized for the CPS Second 10-year Inservice Inspection Interval.

8. Precedents

A similar relief request was approved for use at Cooper Nuclear Station as discussed in Reference 2.

9. References

1. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1.
2. Letter from U. S. Nuclear Regulatory Commission (NRC) to Nebraska Public Power District, "Cooper Nuclear Station Re: Fourth 10-Year Interval Inservice Inspection Request for Relief No. RI-15, Examination of Peripheral Control Rod Drive Housing Welds (TAC No. MD0282)," dated October 13, 2006

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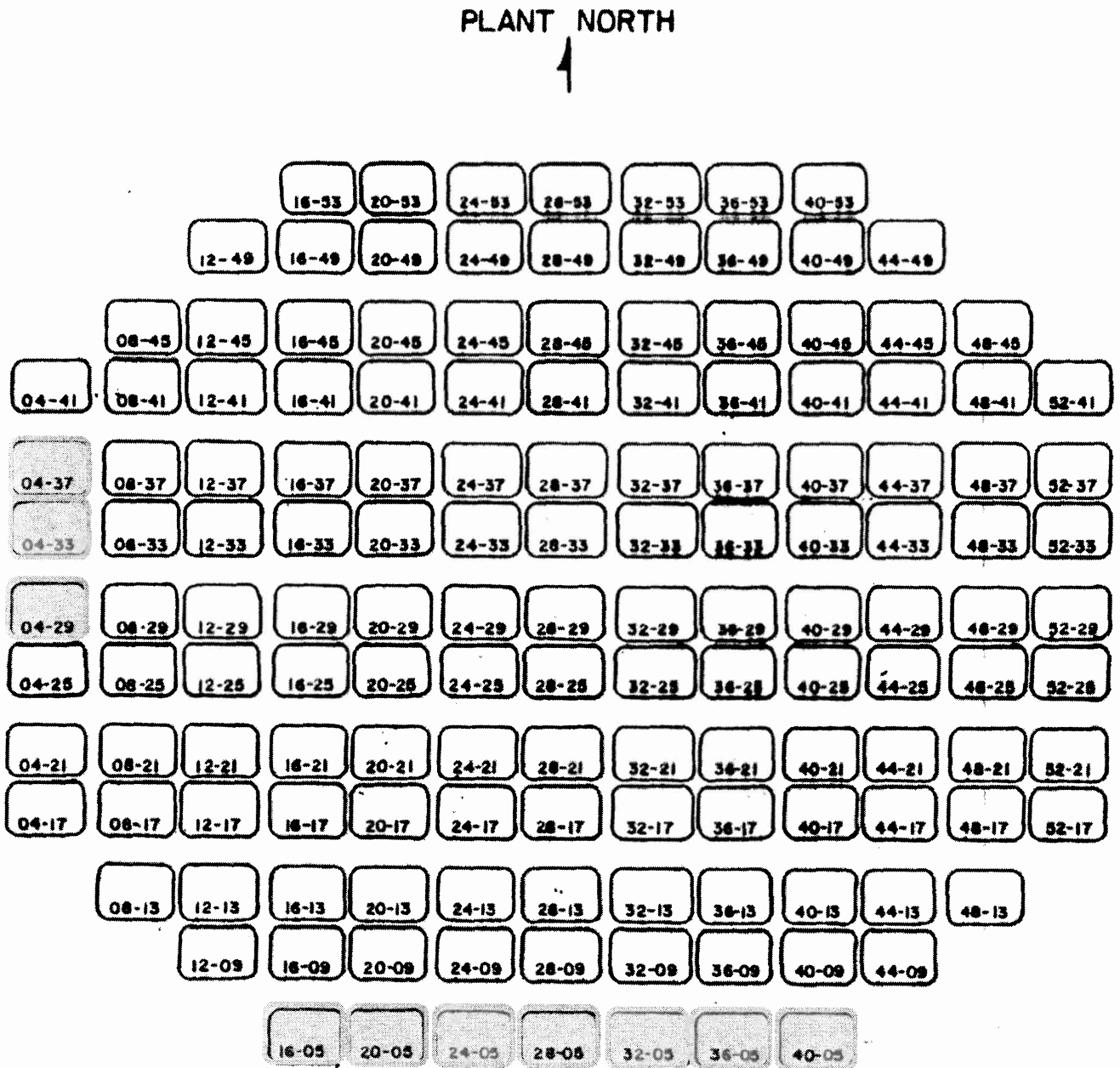


Figure 1: Control Rod Drive Locations with Partial Examination Locations (i.e., 04-29, 04-33, 04-37, 16-05, 20-05, 24-05, 28-05, 32-05, 36-05, and 40-05) Highlighted

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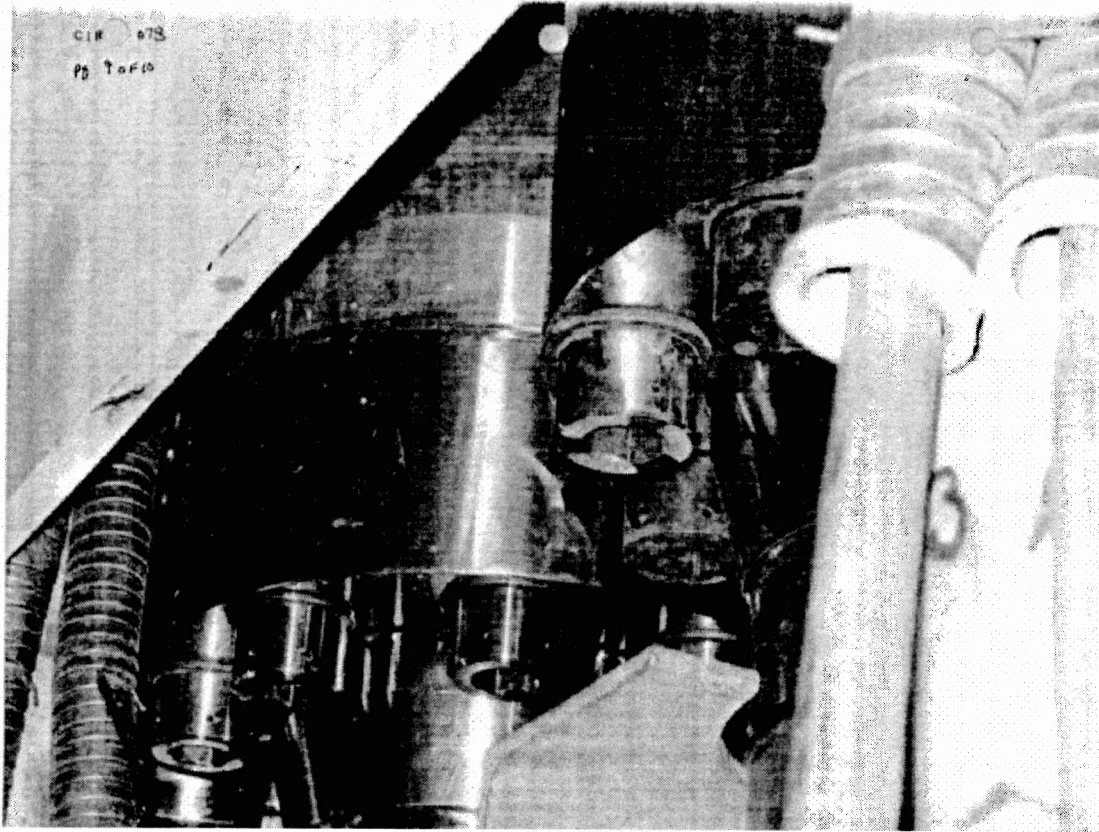


Figure 2: CRDH Lower Weld CRDH-2

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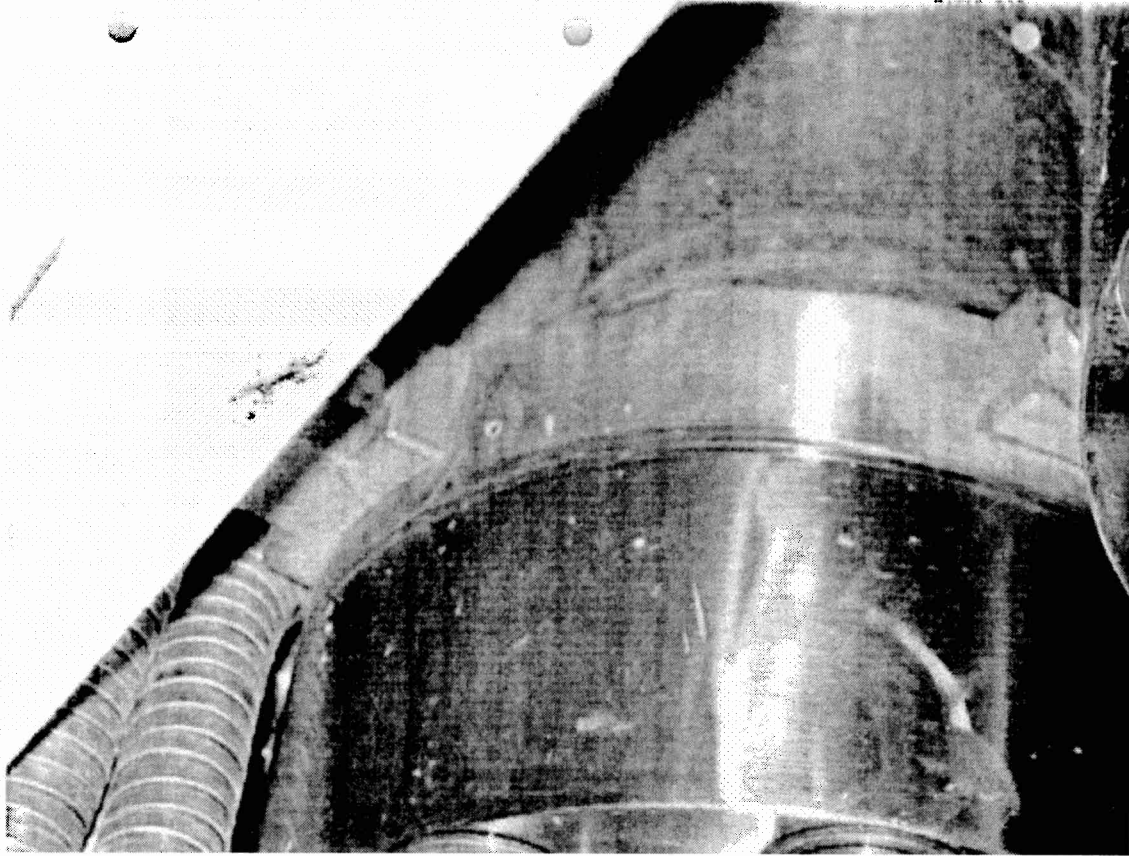


Figure 3: CRDH Lower Weld CRDH-2

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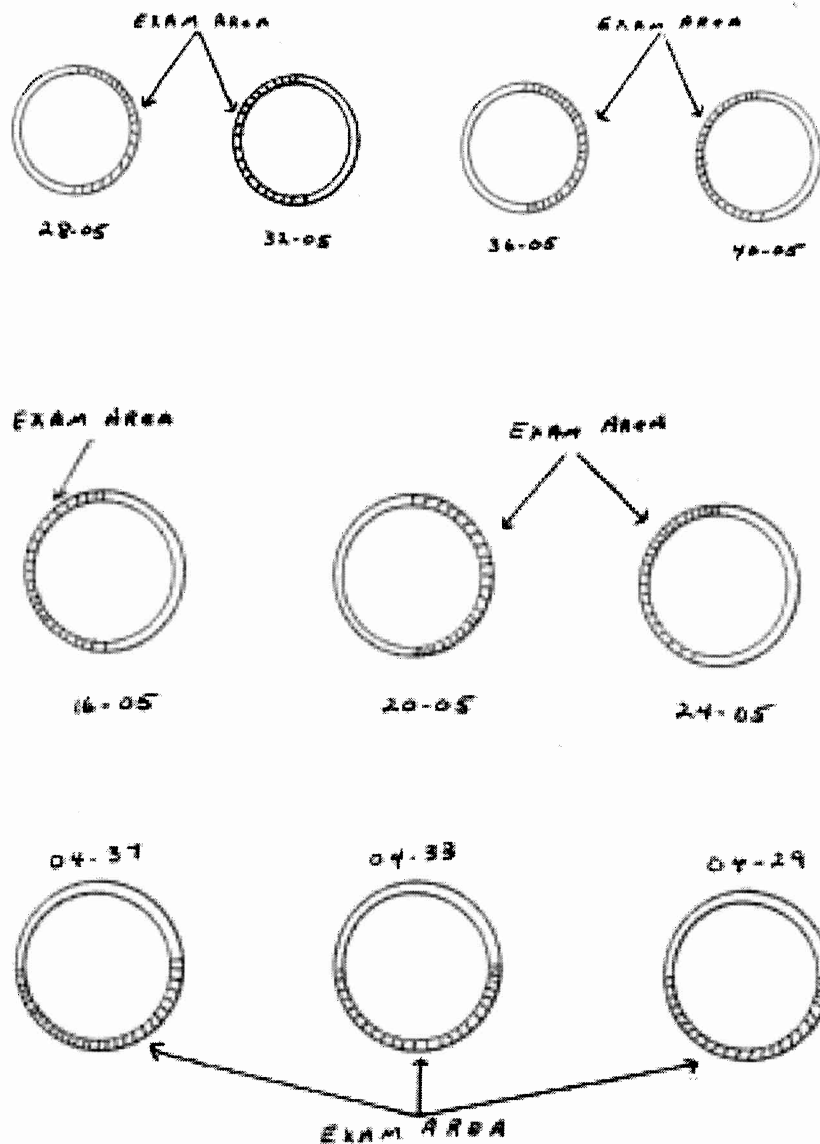


Figure 4: Partial Examination Areas of 10 CRDH-2 Welds

ATTACHMENT 6
10 CFR 50.55a Request Number 4221
Relief Requested In Accordance With 10 CFR 50.55a(g)(5)(iii)
-- Inservice Inspection Impracticality --
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1.0 ASME Code Component(s) Affected

Code Class: 1
Reference: IWB-2500
Code Case N-460
Code Case N-509
Component Number: 1-MS-B-11 and 1-MS-D-10
Examination Category: B-K
Item Number: B10.20
Description: Piping Integrally Welded Attachments

2.0 Applicable Code Edition and Addenda

Clinton Power Station (CPS) second 10-year inspection interval ended on June 30, 2010, and complied with the 1989 Edition of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI and No Addenda.

3.0 Applicable Code Requirement

Class 1 piping integrally welded attachments requirements are given in Code Case N-509, Alternative Rules for the selection and examination of Class 1, 2, and 3 Integrally Welded Attachments, Table 2500-1, Category B-K, Item Number B10.20. The method of examination is surface examination.

4.0 Impracticality of Compliance

This is a containment penetration fitting to the main steam Class 1 piping integrally welded attachment. Weld located outside the containment penetration is accessible and examined. However, weld located inside the containment penetration is not accessible and not examined. Code required surface examination coverage is impractical due to the component configuration and accessibility to the required examination surface.

5.0 Burden Caused by Compliance

In order to examine the inaccessible weld Clinton Power Station (CPS) would have to cut out this containment penetration weld.

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6.0 Proposed Alternative and Basis for Use

Proposed Alternative:

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from performing the required examination on 100% of the examination area. Code Case N-460 allows a reduction in the examination area of up to 10%. This Code Case N-460 has been incorporated into Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15. One half of the welds for the containment penetrations to the Class 1 pipe welded attachments are inaccessible, which resulted in 50% examination coverage. The inaccessible portions of the welds were not examined during the second 10-year interval. The 1989 Edition of ASME Section XI requires the inaccessible portions of the weld to be examined by surface examination. CPS evaluated the feasibility of performing ultrasonic examination on inaccessible portions of welds. Based on the current UT procedures, mockups, and calibration standard, UT examination can not be demonstrated or qualified to the satisfaction of the ASME Code requirements to produce meaningful and reliable results.

Code Case N-509 only requires CPS to perform 10% of the total welded attachments. The Code Case N-509 has been conditionally incorporated into RG 1.147.

Basis for Use:

ASME Code Case N-509 is conditionally acceptable for use according to an earlier revision of RG 1.147. The NRC's condition for acceptable use was that a minimum 10% sample of integrally welded attachments for each item in each ASME Code class shall be examined during each interval. This condition was satisfied for the CPS second ISI interval.

7.0 Duration of Proposed Alternative

The proposed alternative is requested to be utilized for the CPS Second 10-year Inservice Inspection Interval.

8.0 Precedents

A similar relief request was approved for use at Grand Gulf Nuclear Station, Unit 1, as discussed in Reference 2.

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9.0 References

1. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1
2. Letter from U. S. Nuclear Regulatory Commission (NRC) to Entergy Operations, Inc., Grand Gulf Nuclear Station, "Grand Gulf Nuclear Station, Unit 1-Relief Requests GG-ISI-005 Through GG-ISI-012 for Second 10-Year Inservice Inspection Interval (TAC Nos. ME1376, ME1377, ME1378, ME1379, ME1380, ME1381, ME1382, and ME1383)," dated May 25, 2010

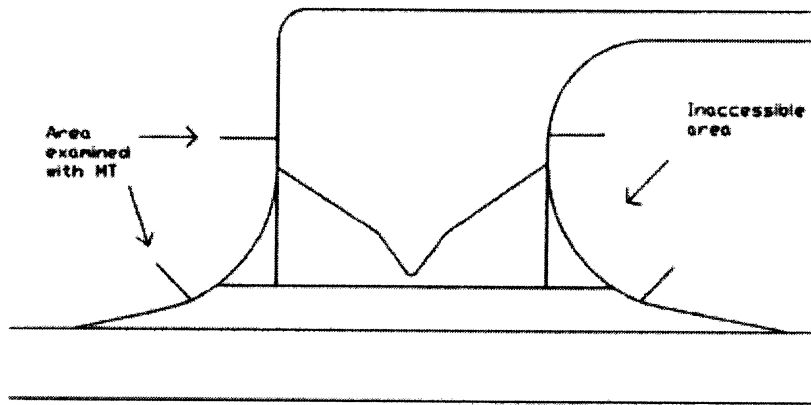


Figure 1: Typical Containment Penetration to a pipe welded attachment as Shown in Examination 1-MS-D-10

Attachment 7
10CFR 50.55a Request 4222
Relief Requested In Accordance With 10 CFR 50.55a(g)(5)(iii)
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1. ASME Code Component(s) Affected

Code Class: 2
Reference: IWC-2500
Code Case N-460
Code Case N-509
Component Number: RCIC-1A(1-4)
Examination Category: C-C
Item Number: C3.30
Description: Pump Integrally Welded Attachment

2. Applicable Code Edition and Addenda

Clinton Power Station (CPS) second 10-year inspection interval ended on June 30, 2010, and complied with the 1989 Edition of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code), Section XI and No Addenda.

3. Applicable Code Requirement

Class 2 pump integrally welded attachment requirements are given in Code Case N-509, Alternative Rules for the selection and examination of Class 1, 2, and 3 Integrally Welded Attachments, Table 2500-1, Category C-C, Item Number C3.30. The method of examination is surface examination.

4. Impracticability of Compliance

There are four (4) identical lugs (i.e., integral attachments) welded to the Reactor Core Isolation Cooling (RCIC) system pump casing which are utilized to mount the pump to its pedestal. Once the pump is installed, the lower side of the weld on either side of the four lugs is inaccessible for examination.

5. Burden Caused by Compliance

In order to perform the examination on the lower side of the lugs, the pump would have to be removed from the pedestal. This would require disconnecting the welded piping from the pump, re-installing the pump on pedestal, reconnecting the piping by welding, and verifying that everything is installed in accordance with design requirements.

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6. Proposed Alternative and Basis for Use

Proposed Alternative:

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from performing the required examination on 100% of the examination area. Code Case N-460 allows a reduction in the examination area of up to 10%. This Code Case N-460 has been approved and incorporated into Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 15. 84% of the required examination volume was examined by surface examination method with no reportable indications. At least 6% of the required examination volume was not examined due to inaccessibility.

Perform the surface examination of the accessible area to the maximum extent feasible without removing the pump from pedestal.

Basis for Use:

To gain access to the lower side of the lugs, the pump would have to be removed from the pedestal. Apart from performing examination itself, this would require disconnecting the piping from the pump, re-installing pump back on pedestal, reconnecting the piping by welding, verifying that everything is installed properly and meets design requirements. This process would require Clinton Power Station (CPS) to expend several man-hours and would result in unnecessary radiation exposure (estimated to be approximately 2 person-rem). A reduction of 6% in the examination coverage will not significantly reduce the margin of safety provided by performing the surface examination for verifying weld integrity.

ASME Code Case N-509 is conditionally acceptable for use according to an earlier revision of RG 1.147. The NRC's condition for acceptable use was that a minimum 10% sample of integrally welded attachments for each item in each ASME Code class shall be examined during each interval. This condition was satisfied for the CPS second ISI interval.

7. Duration of Proposed Alternative

The proposed alternative is requested to be utilized for the CPS Second 10-year Inservice Inspection Interval.

8. Precedents

- An identical relief request was approved for use for the first 10-year inservice inspection interval at CPS as Relief Request Number 4012 as discussed in Reference 2.
- A similar relief request was approved for use at LaSalle County Station as discussed in Reference 3.

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9. References

1. Code Case N-460, Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1
2. Letter from Gail H. Marcus (NRC) to Paul J. Telthorst (CPS), "Evaluation of ASME Section XI Relief Requests Regarding Performance of Non-Destructive Examinations for the First 120-Month Inservice Inspection Interval – Clinton Power Station, Unit 1 (TAC No. M95671)," dated December 4, 1996
3. Letter from Stephen J. Campbell (NRC) to Charles G. Pardee (EGC), "LaSalle County Station, Units 1 and 2 – Relief Request CR-26, Inservice Inspection Program Relief Regarding Examination Coverage for the Second 10-Year Inservice Inspection Interval (TAC Nos. MD9817 – MD9818)," dated September 21, 2009

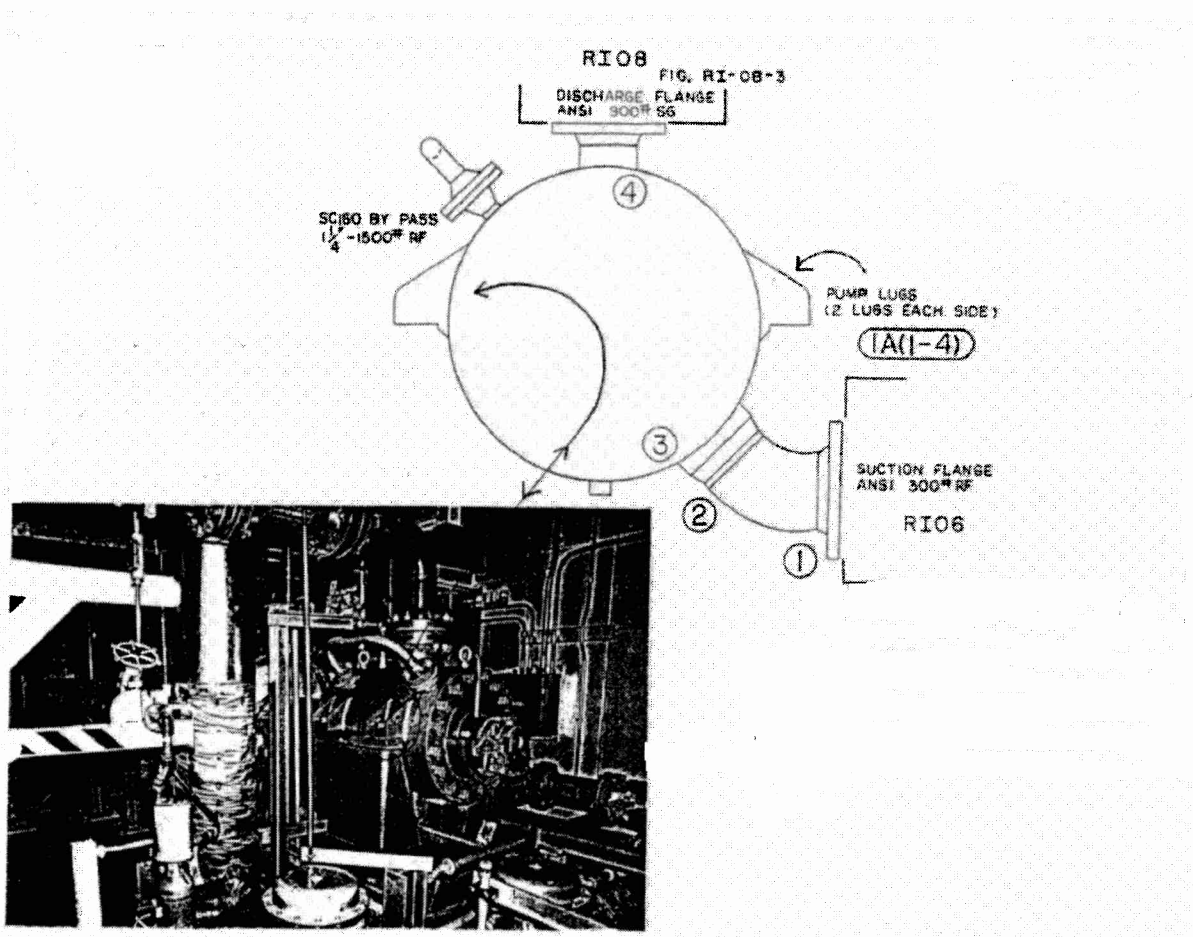


Figure 1: The CPS Reactor Core Isolation Cooling (RCIC) Pump