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July 5, 2010

NL-10-061

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

SUBJECT: 10 CFR 50.55a Relief Requests RR-3-49 and RR-3-50 from Examinations of Component Welds with Less Than Essentially 100 % Examination Coverage For Third Ten-Year Inservice Inspection Interval
Indian Point Unit Number 3
Docket No. 50-286
License No. DPR-64

Dear Sir or Madam:

The Indian Point Unit 3 (IP3) third ten-year inservice inspection interval ended on July 20, 2009. During the third interval, IP3 completed the required in-service examinations in accordance with the program plan. However, the inspections performed on certain components could not fully meet the volumetric examination requirements stipulated in the ASME Section XI Code, 1989 Code, with No Addenda, including the clarifications provided in the ASME Code Case N-460. Entergy Nuclear Operations, Inc. (Entergy) has evaluated these components and determined that conformance with the code requirement of "essentially 100%" coverage of weld volume or area examined was impractical due to various constraints and limitations. Therefore, Entergy is submitting Relief Requests RR-49 (Enclosure 1) and RR-50 (Enclosure 2) for IP3 for the Third Ten-year Inservice Inspection (ISI) Interval pursuant to 10 CFR 50.55a(g)(5)(iii). These relief requests are being submitted within one year of the end of the third ten-year inservice inspection interval for closeout. The alternatives and justifications are explained in the enclosed relief requests and address the specific welds which require relief in accordance with 10 CFR 50.55a. The alternatives and justifications provide an acceptable level of quality and safety and will not adversely impact the health and safety of the public.

A047
NRR

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Robert Walpole, Licensing Manager at 914-734-6710.

Sincerely,

RW/sp

Enclosure
1. Relief Request No: RR-3-49 Relief from Examinations of Component Welds with Less Than Essentially 100 % Examination Coverage
2. Relief Request No: RR-3-50 Relief from Examinations of Component Welds with Less Than Essentially 100 % Examination Coverage

cc: Mr. John P. Boska, Senior Project Manager, NRC NRR DORL
Mr. Samuel J. Collins, Regional Administrator, NRC Region 1
NRC Resident Inspector, IP3
Mr. Francis J. Murray, Jr., President and CEO, NYSERDA
Mr. Paul Eddy, New York State Dept. of Public Service

Enclosure 1 TO NL-10-061

RELIEF REQUEST NO: RR-3-49

Relief from Examinations of Component Welds with Less Than Essentially 100 % Examination Coverage

Third Ten-Year Inservice Inspection Interval

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

Indian Point Unit 3
Third 10-year ISI Interval
Relief Request No: 3-49
Relief from Examinations of Component Welds with Less Than Essentially 100 % Examination Coverage

Proposed Alternative In Accordance with 10CFR50.55a(g)(5)(iii)
-Inservice Inspection Impracticality-

1. ASME Code Component(s) Affected

Code Class:	1
References:	IWB-2500-1
Examination Category:	B-A, and R-A (Risk Informed)
Item Number:	B1.22, AUGR (Risk Informed)

2. Applicable Code Edition and Addenda

The code of record for the Indian Point Unit 3 Inservice Inspection Third Interval is the ASME Section XI Code, 1989 Edition, no Addenda.

3. Applicable Code Requirement

ASME Section XI, Sub-article IWB-2500 states in part, "Components shall be examined and tested as specified in Table IWB-2500-1." Table IWB-2500-1 requires an examination of applicable Class 1 pressure retaining-welds, which includes essentially 100% of weld length once during the ten-year interval for the following Code Categories:

B-A, Item Number B1.22
R-A, Item Number AUGR

A risk-informed in-service inspection (RI-ISI) program was approved for Indian Point Unit 3 (IP3) by the NRC on April 16, 2003. The RI-ISI was developed for Class 1 piping welds for the Examination Category B-F, and B-J, circumferential piping welds in a manner consistent with ASME Code, Section XI, Code Case N-578. Code Case N-578 examination requirements are listed in Table I, Examination Category R-A, Item No. AUGR, and require essentially 100 percent of the required volume of the weld and adjacent base material to be examined.

Code Case N-460 permits a reduction in examination coverage of Class 1 welds provided the coverage reduction is less than 10%. IP3 has adopted Code Case N-460 in the Inservice Inspection (ISI) Program Plan, as permitted by USNRC Regulatory Guide 1.147, Revision 14.

4. Impracticality of Compliance

At the time IP3 was constructed, the ASME Boiler and Pressure Vessel Code only addressed nuclear vessels and associated piping up to and including the first isolation valve. Therefore, the

piping codes of record were ANSI B31.1, 1955 Edition, and ANSI B31.1.0-1967 Edition. Consequently, IP3 piping is not designated by ASME Section III Code Class 1, 2 and 3 systems.

10CFR50.55a recognizes the limitations to in-service inspection of components in accordance with Section XI of the ASME Code that are imposed due to early plants design and construction, as follows: 10CFR50.55a(g)(1), "For a boiling or pressurized water-cooled nuclear power facility whose construction permit was issued prior to January 1, 1971, components (including supports) must meet the requirements of paragraphs (g)(4) and (g)(5) of this section to the extent practical."

10CFR50.55a(g)(4) states, "Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and pre-service examination requirements, set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code ... to the extent practical within the limitations of design, geometry and materials of construction of the components."

Further, 10CFR50.55a(g)(5)(iii) states that , "If the licensee has determined that conformance with certain code requirements is impractical for its facility, the licensee shall notify the Commission and submit, as specified in § 50.4, information to support the determinations."

IP3 has determined that the following welds were limited from achieving greater than 90% of the required examination volume for in-service examinations due to component configuration or physical barriers which would require a major modification to the existing hardware.

TABLE A

Cat	Item	Component ID	Dia (in)	Thk (in)	Mat	Coverage % (Note 1)	Description
B-A	B1.22	1-1300-2	NA	7.5	CS	59	RV Meridional weld
B-A	B1.22	1-1300-3	NA	7.5	CS	84	RV Meridional weld
B-A	B1.22	1-1300-4	NA	7.5	CS	59	RV Meridional weld
B-A	B1.22	1-1300-5	NA	7.5	CS	84	RV Meridional weld
B-A	B1.22	1-1300-6	NA	7.5	CS	59	RV Meridional weld
B-A	B1.22	1-1300-7	NA	7.5	CS	84	RV Meridional weld
R-A	AUGR	1-4401-12	10	1	SS	50	Elbow to Nozzle weld
R-A	AUGR	1-4301-12	10	1	SS	50	Elbow to Nozzle weld
R-A	AUGR	1-4103-4	3	0.44	SS	65	Pipe to Tee weld
R-A	AUGR	1-4100-15	27.5	2.2	SS	45	Cast stainless steel elbow
R-A	AUGR	1-4200-15	27.5	2.2	SS	45	Cast stainless steel elbow
R-A	AUGR	1-4300-15	27.5	2.2	SS	45	Cast stainless steel elbow
R-A	AUGR	1-4400-15	27.5	2.2	SS	45	Cast stainless steel elbow

Note 1: For detailed information on each weld, see the following writeup.

B1.22 RV Head Meridional Welds; 1-1300-3, 1-1300-5 & 1-1300-7

The Reactor Vessel (RV) Meridional Head welds are 56" long, with a total accessible weld length of 26". The Code Required Volume (CRV) was interrogated ultrasonically using personnel and procedures qualified in accordance with ASME Section XI, Appendix VIII, Supplements 4 and 6 (Performance Demonstration Initiative (PDI)). Code coverage of the CRV was only credited for those areas that were examined in accordance with the qualified procedure. The ASME Section XI Code Requirement is to examine essentially 100% of the weld.

The accessible length of the welds were scanned with the transducer oriented perpendicular to the weld centerline in two (2) directions using a 60 degree refracted longitudinal (RL) transducer, which resulted in 100% coverage of the CRV for that scan direction. The welds were also scanned with the transducer oriented parallel to the weld. The welds are tapered adjacent to the head flange for approximately four (4) inches of the weld, where the material thickness exceeds the maximum range for the qualified procedure, 7.64" thickness. The tapered areas were examined; however Code coverage was not credited in those areas.

The scan parallel to the welds was limited due to the RV head flange at one end of the weld and a taper on the other end of the weld. These physical limitations resulted in approximately 84% coverage, which is less than the required coverage of the CRV.

See Attachment 1 for the cross-sectional view of the weld and a sketch of the limitations.

B1.22 RV Head Meridional Welds; 1-1300-2, 1-1300-4 & 1-1300-6

The Reactor Vessel (RV) Meridional Head welds are 56" long, with a total accessible weld length of 26". The Code Required Volume (CRV) was interrogated ultrasonically using personnel and procedures qualified in accordance with ASME Section XI, Appendix VIII, Supplements 4 and 6 (Performance Demonstration Initiative (PDI)). Code coverage of the CRV was only credited for those areas that were examined in accordance with the qualified procedure. The ASME Section XI Code Requirement is to examine essentially 100% of the weld.

The accessible length of the welds were scanned with the transducer oriented perpendicular to the weld centerline in two (2) directions using a 60 degree refracted longitudinal (RL) transducer. The welds were also scanned with the transducer oriented parallel to the weld. The welds are tapered adjacent to the head flange for approximately four (4) inches of the weld, where the material thickness exceeds the maximum range for the qualified procedure, 7.64" thickness. The tapered areas were examined; however Code coverage was not credited in those areas. These 3 welds also have the RV head lifting lugs located directly on top of the welds further restricting the examination in those areas.

The scan parallel to the welds was limited due to the RV head flange at one end of the weld, the RV head lifting lugs, and a taper on the other end of the weld. The scan perpendicular to the welds was limited due to the RV head lifting lugs. These physical limitations resulted in approximately 59% coverage, which is less than the required coverage of the CRV.

See Attachment 1 for the cross-sectional view of the weld and a sketch of the limitations.

AUGR Class 1 Risk Informed Piping Welds; 1-4401-12, 1-4301-12 & 1-4103-4

The above listed welds were ultrasonically examined using PDI qualified personnel and procedures in accordance with ASME Section XI, Appendix VIII. The ultrasonic examination of these pipe welds was limited in coverage due to component configuration. It is not possible to perform the ultrasonic examination from both sides of the weld since one side of the weld was not suitable for scanning due to the OD surface geometry of the component; therefore, the welds only received a single sided examination or partial single sided examination resulting in less than 90% coverage of the required examination volume. The percentage of coverage reported represents the aggregate coverage from all examination angles and scans performed on the weld and adjacent base material.

Welds 1-4401-12 and 1-4301-12 are nozzle to elbow welds with no inspection able to be performed from the nozzle side due to component geometry. This physical limitation resulted in approximately 50% coverage, which is less than the required coverage of the CRV. Weld 1-4301-4 is a tee to elbow weld with a limited inspection able to be performed from the tee side due to component geometry. This physical limitation resulted in approximately 65% coverage, which is less than the required coverage of the CRV.

See Attachment 1 for the cross-sectional view of the welds and limitations.

AUGR Class 1 Risk Informed Piping Welds; 1-4100-15, 1-4200-15, 1-4300-15 & 1-4400-15

The Code requirement is to examine components with techniques qualified in accordance with ASME Section XI, Appendix VIII. There are currently no Appendix VIII (PDI) qualified procedures to inspect cast stainless steel (A351 Grade CF8M) materials. The Reactor Vessel inlet nozzle configuration is an austenitic steel safe-end welded to a cast stainless steel elbow.

The entire code required volume was examined employing the Appendix VIII procedure qualified for the examination of austenitic steel welds from the ID surface. Examinations conducted using this procedure met or exceeded the required Appendix III examinations. Code required examination volume that was scanned is estimated at greater than 96%. This coverage calculation considers all four required examination beam directions and shows that greater than 96% of the code required examination volume was scanned on all 4 welds. The only limitations to scanning were due to minor inside diameter surface condition configurations.

Code coverage for the examination of the cast stainless steel elbows can not be credited since the procedure is not qualified for the cast stainless steel material examined. Therefore, when disallowing examination into or from the cast stainless steel material, coverage of the code required volume is estimated at 45%. The limited coverage area includes any area which requires the sound to pass through the cast stainless steel material.

A supplemental Eddy Current examination was also performed on the ID surface for each of these welds and adjacent piping base metal. This supplemental examination interrogated 100% of the exposed surface of the Ultrasonic examination Code required volume. No recordable indications were revealed by this Eddy Current examination of these (4) welds.

See Attachment 1 for a further discussion and the cross-sectional view of the welds and limitations.

5. Burden Caused by Compliance

In order to scan all of the required volume for these welds, the components would have to be redesigned to allow scanning from both sides of the weld, which is impractical. There were no unacceptable indications (other than geometric indications) found during the inspection of these welds. Based on the components designed configuration, the available coverage will not meet the requirements of the ASME Code, Code Case N-578 or Code Case N-460.

In accordance with 10 CFR 50.55a(g)(5)(iii), relief is requested for the components listed in Table A on the basis that the required examination coverage of "essentially 100 percent" is impractical due to physical obstructions and the limitations imposed by design, geometry, and materials of construction. IP3 utilized examination techniques qualified to meet the requirements of ASME Section XI, Appendix VIII, as required in 10 CFR 50.55a(g)(6)(a)(c), that achieved the maximum practical amount of coverage obtainable within the limitations imposed by the design of the components and examination techniques. Additionally, VT-2 examinations are performed on the subject components of the Reactor Coolant Pressure Boundary during system pressure tests on a refueling outage frequency. Those examinations were completed each refueling outage and no evidence of leakage was identified for these components.

Further, the mandated requirement in 10 CFR 50.55a(b)(2)(xv)(A)(2), which states, "Where 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" could not be met. The Appendix VIII techniques applied at IP3 are not qualified for "Detection or length sizing of circumferentially oriented flaw indications when only single side access is available and the flaw is located on the far side of the weld."

Based on the design configuration of the components and available examinations techniques, IP3 was not able to achieve greater that 90% Code coverage of the required examination volume for the components listed above without major modifications to the components.

6. Proposed Alternative and Basis for Use

No alternative examinations were performed for the welds during the completed inspection interval. The use of radiography as an alternate volumetric examination for all the above listed components is not practical due to component thickness and/or geometric configurations. Other restrictions making radiography impractical are the physical barriers prohibiting access for placement of source, film, image quality indicator, etc.

Based on the above, with due consideration of the earlier plant design, the underlying objectives of the Code required volumetric examinations have been met. The examinations were completed to the extent practical and evidenced no unacceptable flaws present. VT-2 examinations performed on the subject Class 1 components during system pressure testing each refueling outage provide continued assurance that the structural integrity of the subject components is maintained.

Ultrasonic examination of the welds was conducted using personnel qualified in accordance with ASME Section XI, Appendix VII of the 1995 Edition through 1998 Addenda. Ultrasonic procedures complied with the requirements of ASME Section V, Article 4 as amended by ASME Section XI, Appendix I and Appendix VIII. IWB-2500, Table IWB-2500-1, Examination Category B-P System Leakage Tests and VT-2 visual examinations performed each refueling outage provide adequate assurance of pressure boundary integrity. In addition to the above Code required examinations (volumetric, surface, visual, and pressure test), there are other activities which provide a high level

of confidence that, in the unlikely event that leakage did occur through these welds it would be detected and proper action taken. Specifically, system leak rate limitations imposed by Technical Specifications as well as containment building normal sump rate monitoring, provide additional assurance that any leakage would be detected prior to gross failure of the component. The component welds were inspected by volumetric and surface NDE methods during construction and verified to be free from unacceptable fabrication defects.

Therefore, reasonable assurance of quality and safety is based on the achieved coverage and results of the volumetric, surface, and/or visual inspections and the pressure testing VT-2 examinations performed.

7. Duration of Proposed Alternative

Relief is requested for the Third Ten-year Interval of the Inservice Inspection Program for IP3 which was effective from July 21, 2000, through July 20, 2009.

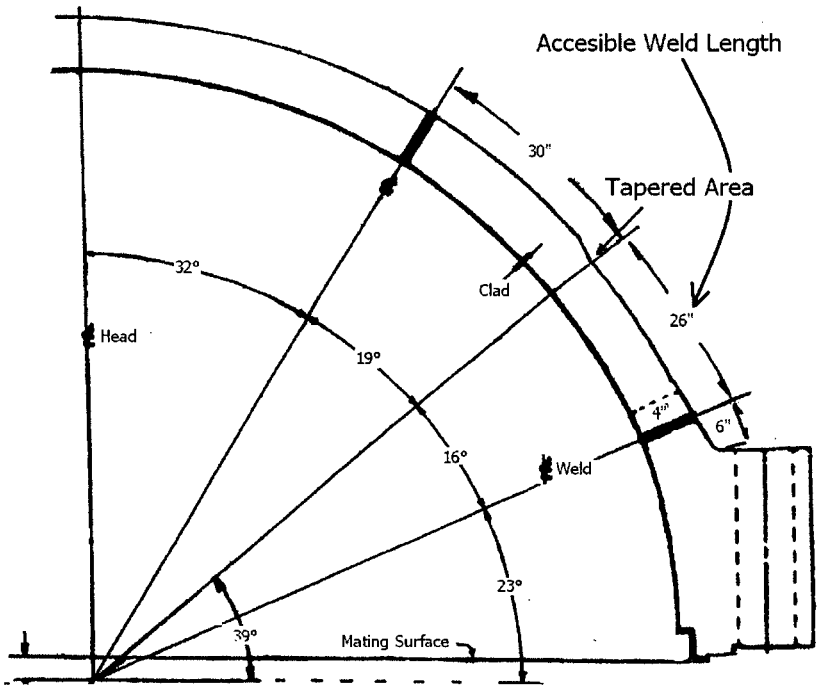
8. References

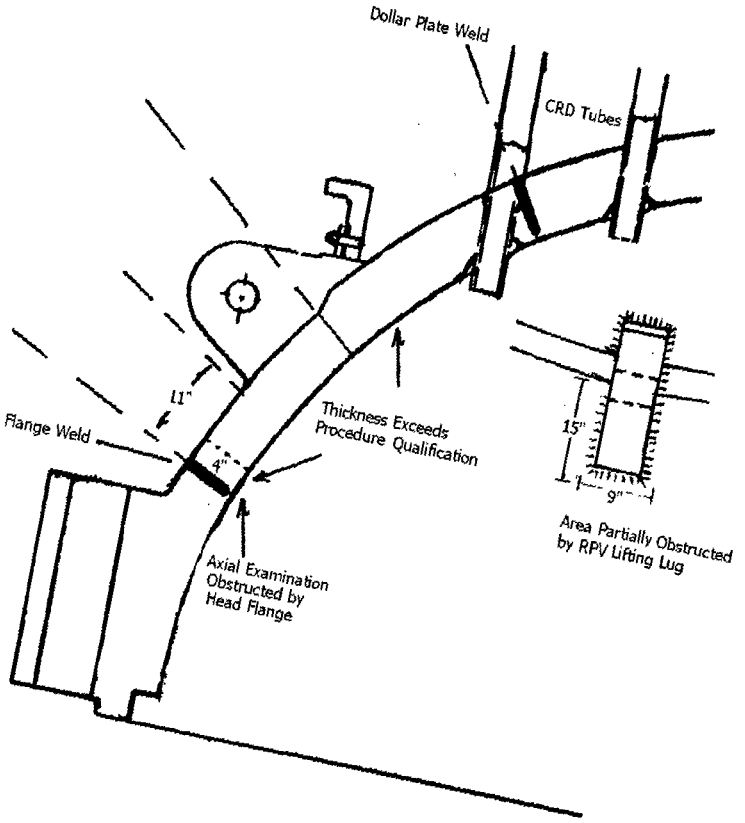
None

ATTACHMENT 1
WELD LIMITATION VIEWS AND DETAILS

Welds 1-1300-2, 1-1300-3, 1-1300-4, 1-1300-5, 1-1300-6, and 1-1300-7

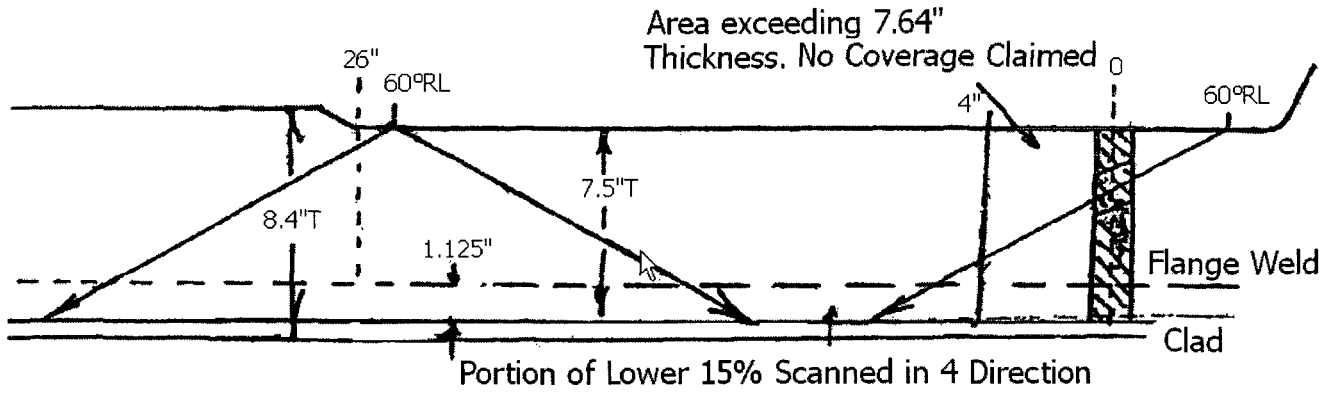
RV Head Profile Showing the Cross Section of the Meridional Welds



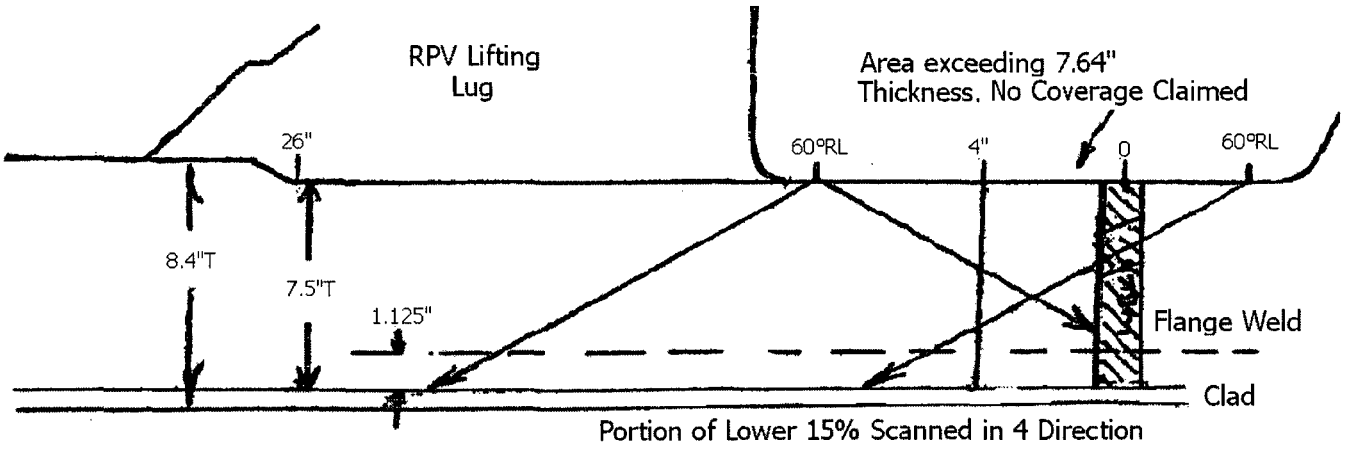

Dollar Plate Weld
CRD Tubes
11"
Flange Weld
4"
Thickness Exceeds
Procedure Qualification
15"
9"
Area Partially Obstructed
by RPV Lifting Lug
Axial Examination
Obstructed by
Head Flange

RV Head Meridional Weld Coverage

Welds 1-1300-3, 1-1300-5, and 1-1300-7

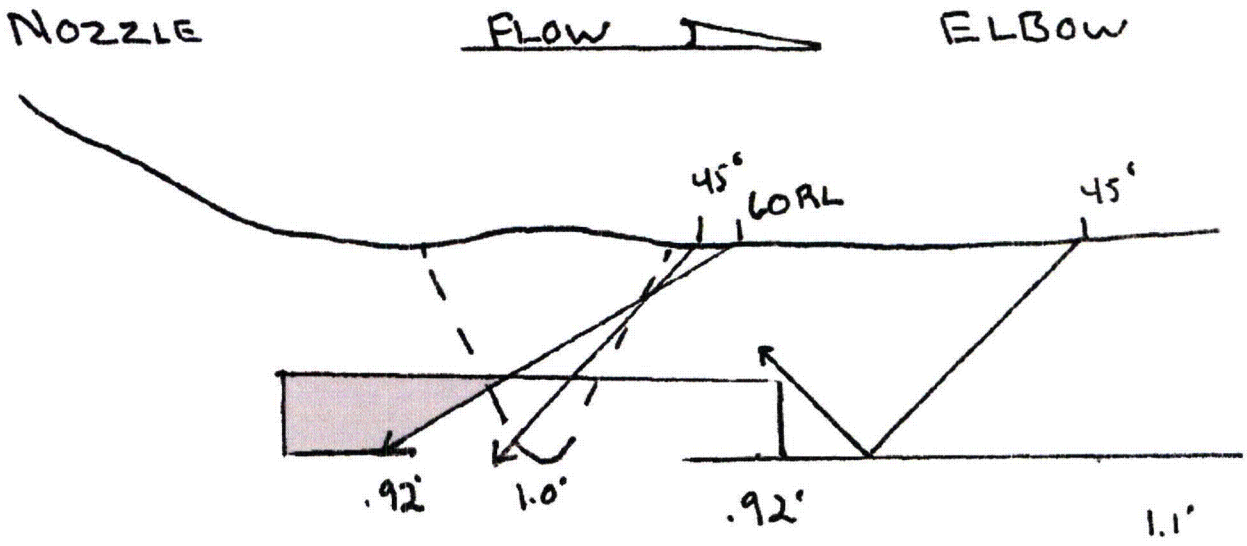


Welds 1-1300-2, 1-1300-4, and 1-1300-6

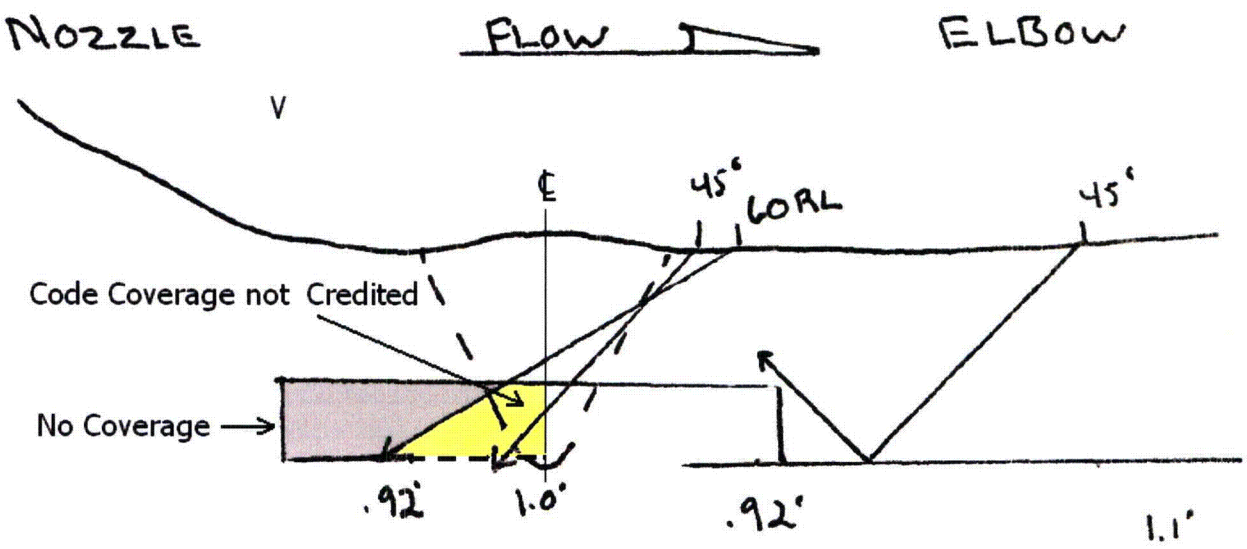


Risk Informed Piping Welds

Weld 1-4401-12

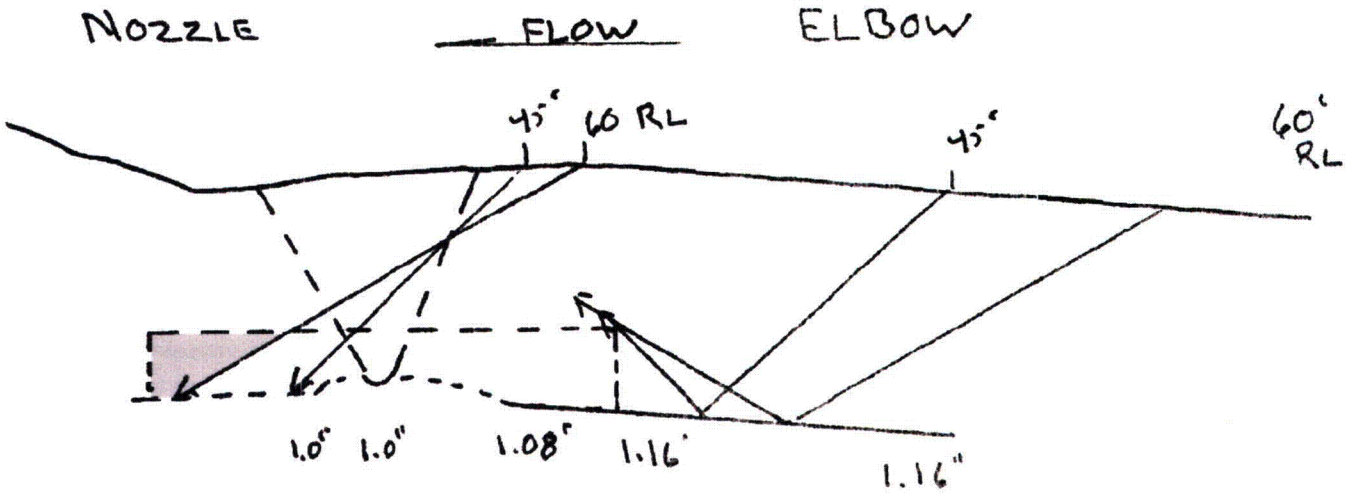


Weld 1-4401-12

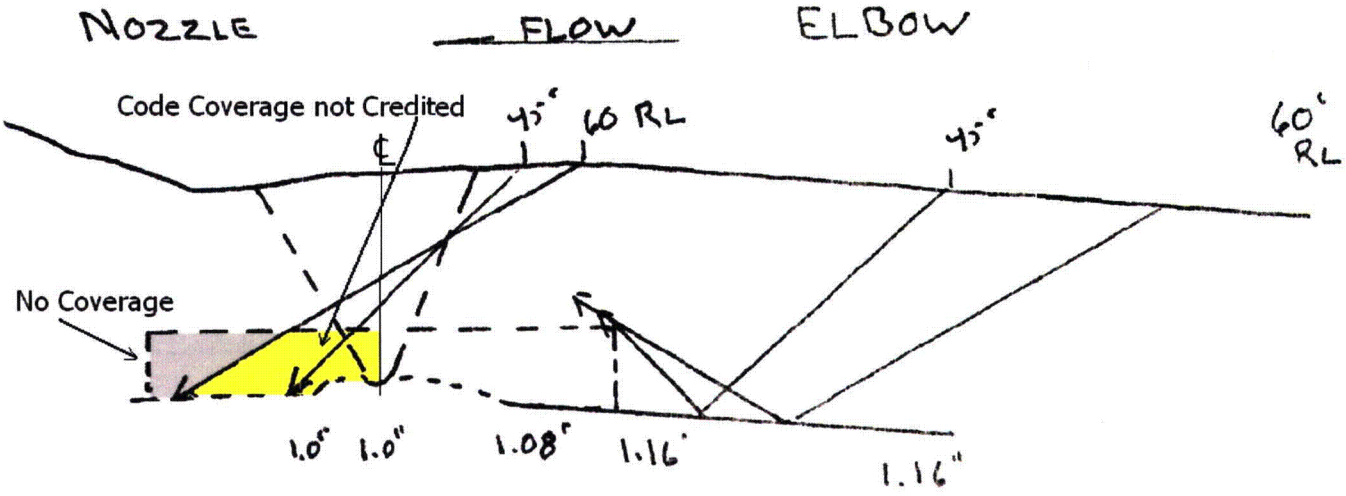


Risk Informed Piping Welds (Continued)

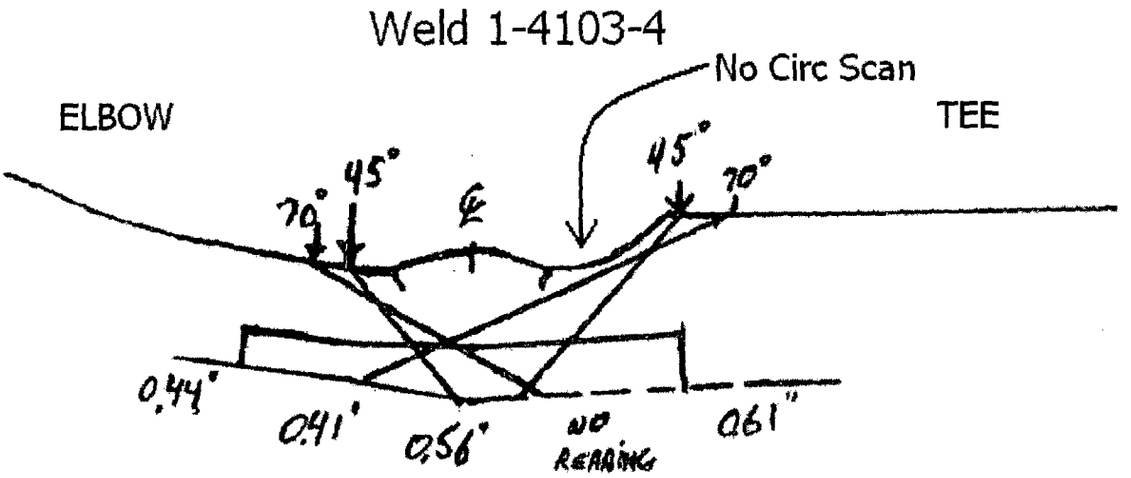
Weld 1-4301-12



Weld 1-4301-12



Risk Informed Piping Welds (Continued)



Risk Informed Piping Welds; 1-4100-15, 1-4200-15, 1-4300-15, 1-4400-15

On the Reactor Vessel inlet nozzles, a cast stainless steel (A351 Grade CF8M) elbow is welded to the safe-end upstream of the dissimilar metal weld (welds 1-4100-15, 1-4200-15, 1-4300-15, 1-4400-15). There are currently no Appendix VIII (PDI) qualified procedures to inspect cast stainless steel materials. The entire volume was examined employing the Appendix VIII procedure qualified for the examination of austenitic welds. Examinations conducted using this procedure met or exceeded the required Appendix III examinations. The discussion below is to help describe the logic and methodology used in calculating the exam coverage estimates.

Code Required Examination Volume

Code required examination volume that was scanned is estimated at greater than 96%. This documents the code required examination volume that was scanned utilizing both a PDI qualified technique and the use of the PDI qualified procedure for areas where there is no PDI qualified procedures (i.e. the cast elbows). This coverage calculation considers all four required examination beam directions and shows that greater than 96% of the code required examination volume was scanned on all 4 welds. The only limitations to scanning were due to ID surface condition configurations.

Weld 1-4100-15; 96.83% examined

Weld 1-4200-15; 97.19% examined

Weld 1-4300-15; 100% examined

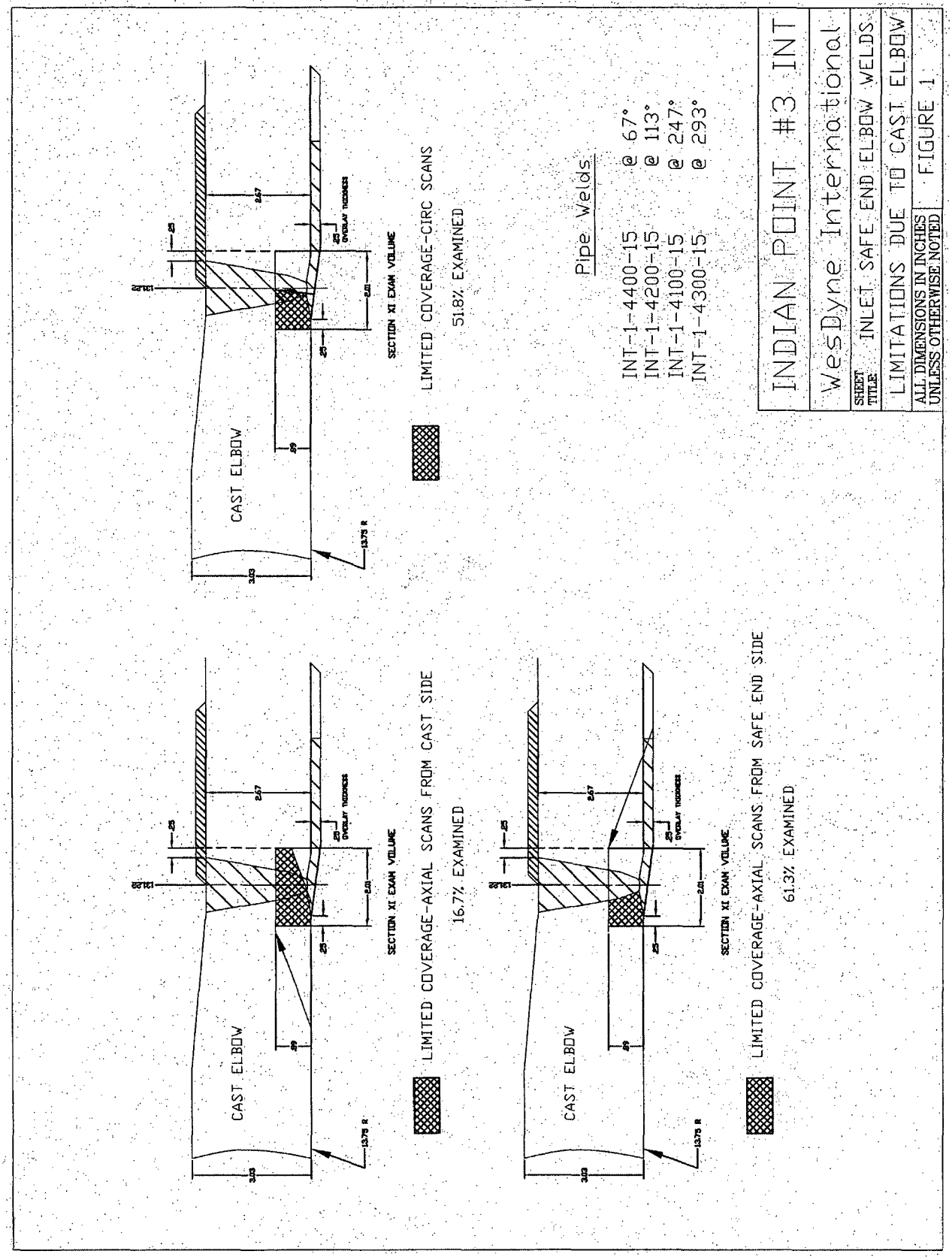
Weld 1-4400-15; 97.87% examined

Calculation of limitations to circumferential scanning due to ID surface configurations were performed automatically in Paragon analysis software by use of the ultrasonically obtained ID profiles.

Examination Volume Coverage Credit

When disallowing examination into or from the cast material, coverage of the code required volume is estimated at 45% (Reference attached Figure 1). As can be seen from Figure 1, the limited coverage area includes any area which requires the sound to pass thru the cast stainless steel material. In the case of the axial scan from the cast side shown in Figure 1, this means no coverage is credited until the sound path travels from the transducer, thru the clad, directly into the weld, and then into the base metal of the safe-end. The same logic is applied for the axial scan from the safe-end side and the circ scans.

Risk Informed Piping Welds; 1-4100-15, 1-4200-15, 1-4300-15, 1-4400-15
Figure 1



Enclosure 2 TO NL-10-061

RELIEF REQUEST NO: RR-3-50

Relief from Examinations of Component Welds with Less Than Essentially 100 % Examination Coverage

Third Ten-Year Inservice Inspection Interval

ENTERGY NUCLEAR OPERATIONS, INC.
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3
DOCKET NO. 50-286

Indian Point Unit 3
Third 10-year ISI Interval
Relief Request No: 3-50
Relief from Examinations of Component Welds with Less Than Essentially 100 % Examination Coverage

Proposed Alternative In Accordance with 10 CFR 50.55a(g)(5)(iii)
-Inservice Inspection Impracticality-

1. ASME Code Component(s) Affected

Code Class:	2
References:	IWC-2500-1
Examination Category:	C-A, and C-F-1
Item Number:	C1.10, C1.20, C5.11, and C5.21

2. Applicable Code Edition and Addenda

The code of record for the Indian Point Unit 3 Inservice Inspection Third Interval is the ASME Section XI Code, 1989 Edition, no Addenda.

3. Applicable Code Requirement

ASME Section XI, Sub-article IWC-2500 states in part, "Components shall be examined and tested as specified in Table IWC-2500-1." Table IWC-2500-1 requires an examination of applicable Class 2 pressure retaining-welds, which includes essentially 100% of weld length once during the ten-year interval for the following Code Categories:

C-A, Item Numbers C1.10 and C1.20
C-F-1, Item Numbers C5.11 and C5.21

Code Case N-460 permits a reduction in examination coverage of Class 2 welds provided the coverage reduction is less than 10%. IP3 has adopted Code Case N-460 in the Inservice Inspection (ISI) Program Plan, as permitted by USNRC Regulatory Guide 1.147, Revision 14.

4. Impracticality of Compliance

At the time IP3 was constructed, the ASME Boiler and Pressure Vessel Code only addressed nuclear vessels and associated piping up to and including the first isolation valve. Therefore, the piping codes of record were ANSI B31.1, 1955 Edition, and ANSI B31.1.0-1967 Edition. Consequently, IP3 piping is not designated by ASME Section III Code Class 1, 2 and 3 systems.

10CFR50.55a recognizes the limitations to in-service inspection of components in accordance with Section XI of the ASME Code that are imposed due to early plants design and construction, as follows: 10CFR50.55a(g)(1), "For a boiling or pressurized water-cooled nuclear power facility whose construction permit was issued prior to January 1, 1971, components (including supports) must meet the requirements of paragraphs (g)(4) and (g)(5) of this section to the extent practical."

10CFR50.55a(g)(4) states, "Throughout the service life of a boiling or pressurized water-cooled nuclear power facility, components (including supports) which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements, except design and access provisions and pre-service examination requirements, set forth in Section XI of editions of the ASME Boiler and Pressure Vessel Code ... to the extent practical within the limitations of design, geometry and materials of construction of the components."

Further, 10CFR50.55a(g)(5)(iii) states that , "If the licensee has determined that conformance with certain code requirements is impractical for its facility, the licensee shall notify the Commission and submit, as specified in § 50.4, information to support the determinations."

IP3 has determined that the following welds were limited from achieving greater than 90% of the required examination volume for in-service examinations due to component configuration or physical barriers which would require a major modification to the existing hardware.

TABLE A

Cat	Item	Component ID	Dia (in)	Thk (in)	Mat	Coverage % (Note 1)	Description
C-A	C1.10	2-1120-31-2	NA	.75	SS	75	RHR Heat Exchanger Shell Circumferential Weld
C-A	C1.20	2-1220-2	NA	2.7	CS	81	Boron Injection Tank Head Circumferential Weld
C-F-1	C5.11	2-2532-6	6	.562	SS	75	RHR Circumferential Pipe Weld
C-F-1	C5.21	2-2546-3	4	.337	SS	75	Safety Injection Circumferential Pipe Weld

Note 1: For detailed information on each weld, see the following write-up.

C1.10 Residual Heat Removal Heat Exchanger Shell Circumferential Weld; 2-1120-31-2

The Residual Heat Removal (RHR) Heat Exchanger Shell circumferential weld 31-2 is 133" long and attaches the heat exchanger shell to a flange. The Code Required Volume (CRV) was interrogated ultrasonically using personnel and procedures in accordance with ASME Section XI. Code coverage of the CRV was only credited for those areas that were examined in accordance with the procedure requirements. The ASME Section XI Code Requirement is to examine essentially 100% of the weld.

Due to the proximity of the heat exchanger flange to weld 31-2, the weld could not be scanned from the flange side. This physical limitation resulted in approximately 75% coverage, which is less than the required coverage of the Code Required Volume.

See Attachment 1 for the cross-sectional view of the weld and a sketch of the limitations.

C1.20 Boron Injection Tank Head Circumferential Weld; 2-1220-2

The Boron Injection Tank head circumferential weld 2 is 168" long and attaches the Boron Injection Tank lower head to the shell. The Code Required Volume (CRV) was interrogated ultrasonically using personnel and procedures in accordance with ASME Section XI. Code coverage of the CRV was only credited for those areas that were examined in accordance with the procedure

requirements. The ASME Section XI Code Requirement is to examine essentially 100% of the weld.

Due to four 8" wide integrally welded support legs which are used to support the tank, the lower head to shell weld could not be scanned behind the support legs. This physical limitation resulted in approximately 81% coverage, which is less than the required coverage of the CRV.

See Attachment 1 for a sketch of the limitation.

C5.11 RHR Circumferential Pipe Weld; 2-2532-6

The above listed weld was ultrasonically examined using qualified personnel and procedures in accordance with ASME Section XI, Appendix VIII, Supplement 2 (Performance Demonstration Initiative (PDI)). The ultrasonic examination of this pipe weld was limited in coverage due to component configuration.

Weld 2-2532-6 is a flange to pipe weld and it is not possible to perform the ultrasonic examination from both sides of the weld since one side of the weld was not suitable for scanning due to the OD surface geometry of the component (flange). Therefore, the weld only received a single sided examination resulting in less than 90% coverage of the required examination volume. This physical limitation resulted in approximately 75% coverage, which is less than the required coverage of the CRV.

See Attachment 1 for the cross-sectional view of the weld and limitation.

C5.21 Safety Injection Circumferential Pipe Weld; 2-2546-3

The above listed weld was ultrasonically examined using qualified personnel and procedures in accordance with ASME Section XI, Appendix VIII, Supplement 2 (Performance Demonstration Initiative (PDI)). The ultrasonic examination of this pipe weld was limited in coverage due to component configuration.

Weld 2-2546-3 is a reducer to pipe weld and it is not possible to perform the ultrasonic examination from both sides of the weld since one side of the weld was not suitable for scanning due to the OD surface geometry of the component (reducer). Therefore, the weld only received a single sided examination resulting in less than 90% coverage of the required examination volume. This physical limitation resulted in approximately 75% coverage, which is less than the required coverage of the CRV.

See Attachment 1 for the cross-sectional view of the weld and limitation.

5. Burden Caused by Compliance

In order to inspect all of the required volume for these welds, the components would have to be redesigned to allow scanning from both sides of the weld, which is impractical. There were no unacceptable indications found during the inspection of these welds. Based on the components designed configuration, the available coverage will not meet the requirements of the ASME Code, or Code Case N-460.

In accordance with 10 CFR 50.55a(g)(5)(iii), relief is requested for the components listed in Table A on the basis that the required examination coverage of "essentially 100 percent" is impractical due to physical obstructions and the limitations imposed by design, geometry, and materials of construction. IP3 utilized examination techniques qualified to meet the requirements of ASME Section XI, as required in 10 CFR 50.55a(g)(6)(a)(c), that achieved the maximum practical amount of coverage obtainable within the limitations imposed by the design of the components and examination techniques. Additionally, VT-2 examinations are performed on the subject components during system pressure tests on an inspection period frequency. Those examinations were completed and no evidence of leakage was identified for these components.

Based on the design configuration of the components and available examinations techniques, IP3 was not able to achieve greater than 90% Code coverage of the required examination volume for the components listed above without major modifications to the components.

6. Proposed Alternative and Basis for Use

No alternative examinations were performed for the welds during the completed inspection interval. The use of radiography as an alternate volumetric examination for all the above listed components is not practical due to component thickness and/or geometric conditions. Other restrictions making radiography impractical are the physical barriers prohibiting access for placement of source, film, image quality indicator, etc.

Based on the above, with due consideration of the earlier plant design, the underlying objectives of the Code required examinations have been met. The examinations were completed to the extent practical and evidenced no unacceptable flaws present. VT-2 examinations performed on the subject Class 2 components during system pressure testing each inspection period provide continued assurance that the structural integrity of the subject components is maintained.

Ultrasonic examination of the welds was conducted using personnel qualified in accordance with ASME Section XI, Appendix VII of the 1995 Edition through 1996 Addenda. Ultrasonic procedures complied with the requirements of ASME Section V, Article 4 as amended by ASME Section XI, Appendix I and Appendix VIII. IWC-2500, Table IWC-2500-1, Examination Category C-H System Leakage Tests and VT-2 visual examinations performed each inspection period provide adequate assurance of pressure boundary integrity. In addition to the above Code required examinations (volumetric, surface, visual, and pressure test), there are other activities which provide a high level of confidence that, in the unlikely event that leakage did occur through these welds it would be detected and proper action taken. Specifically, system leak rate limitations imposed by Technical Specifications as well as containment building normal sump rate monitoring, provide additional assurance that any leakage would be detected prior to gross failure of the component. The component welds were inspected by volumetric and surface NDE methods during construction and verified to be free from unacceptable fabrication defects.

Therefore, reasonable assurance of quality and safety is based on the achieved coverage and results of the volumetric, surface, and/or visual inspections and the pressure testing VT-2 examinations performed.

7. Duration of Proposed Alternative

Relief is requested for the Third Ten-year Interval of the Inservice Inspection Program for IP3 which

was effective from July 21, 2000, through July 20, 2009.

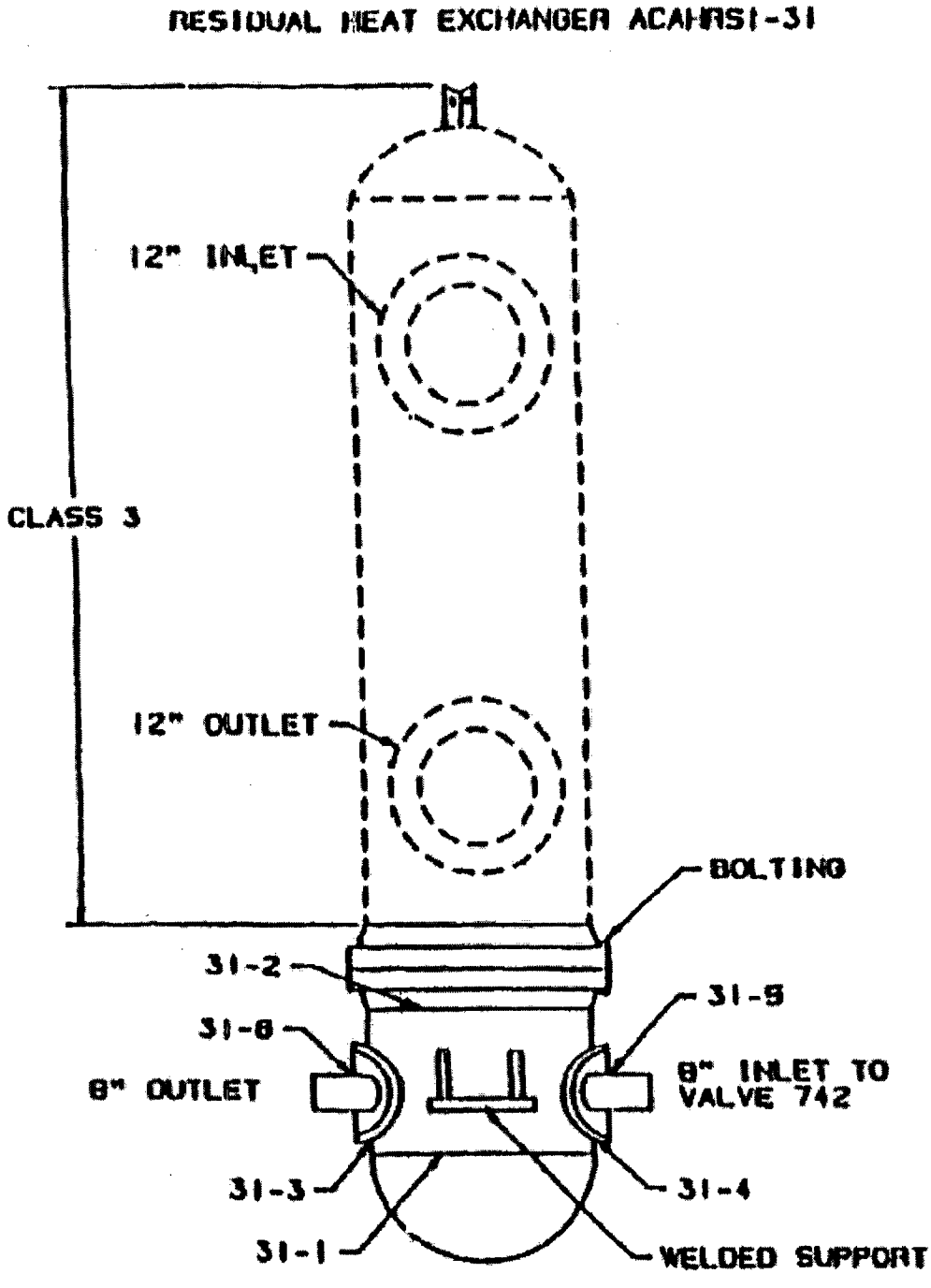
8. References

None

RR-3-50
ATTACHMENT 1
WELD LIMITATION VIEWS AND DETAILS

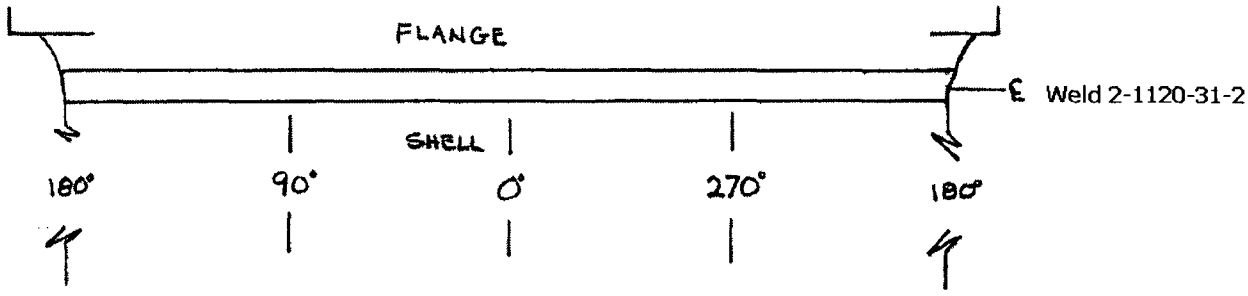
Residual Heat Removal (RHR) Heat Exchanger Shell Circumferential Weld;

2-1120-31-2

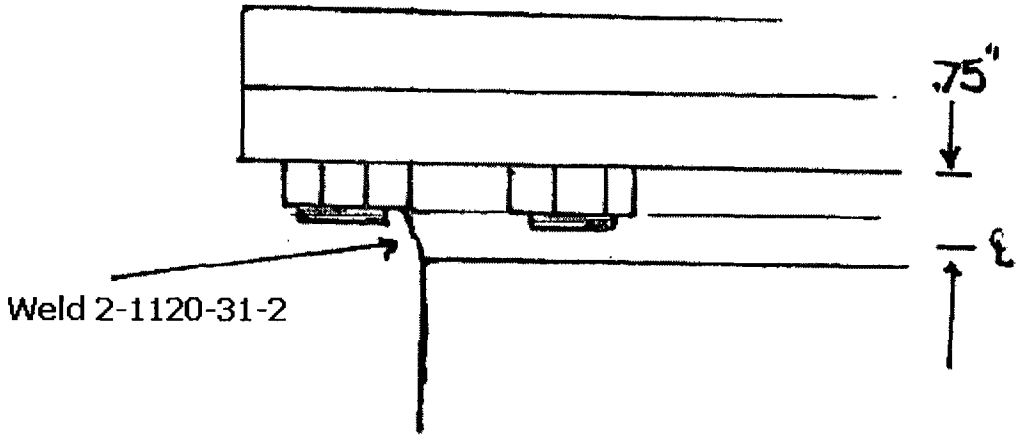


RHR Heat Exchanger Shell Circumferential Weld; 2-1120-31-2 (Profiles)

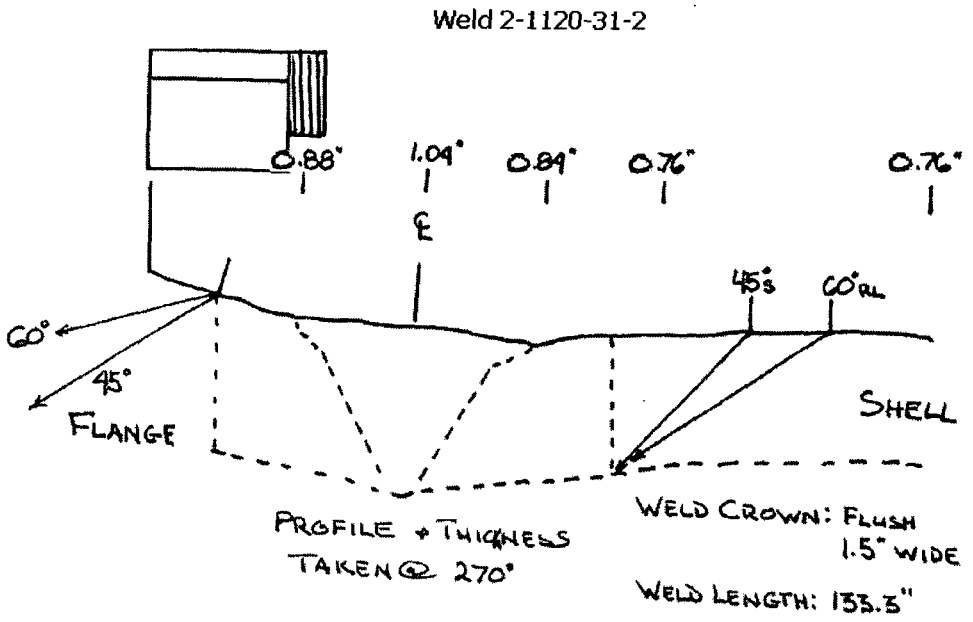
Plan View:



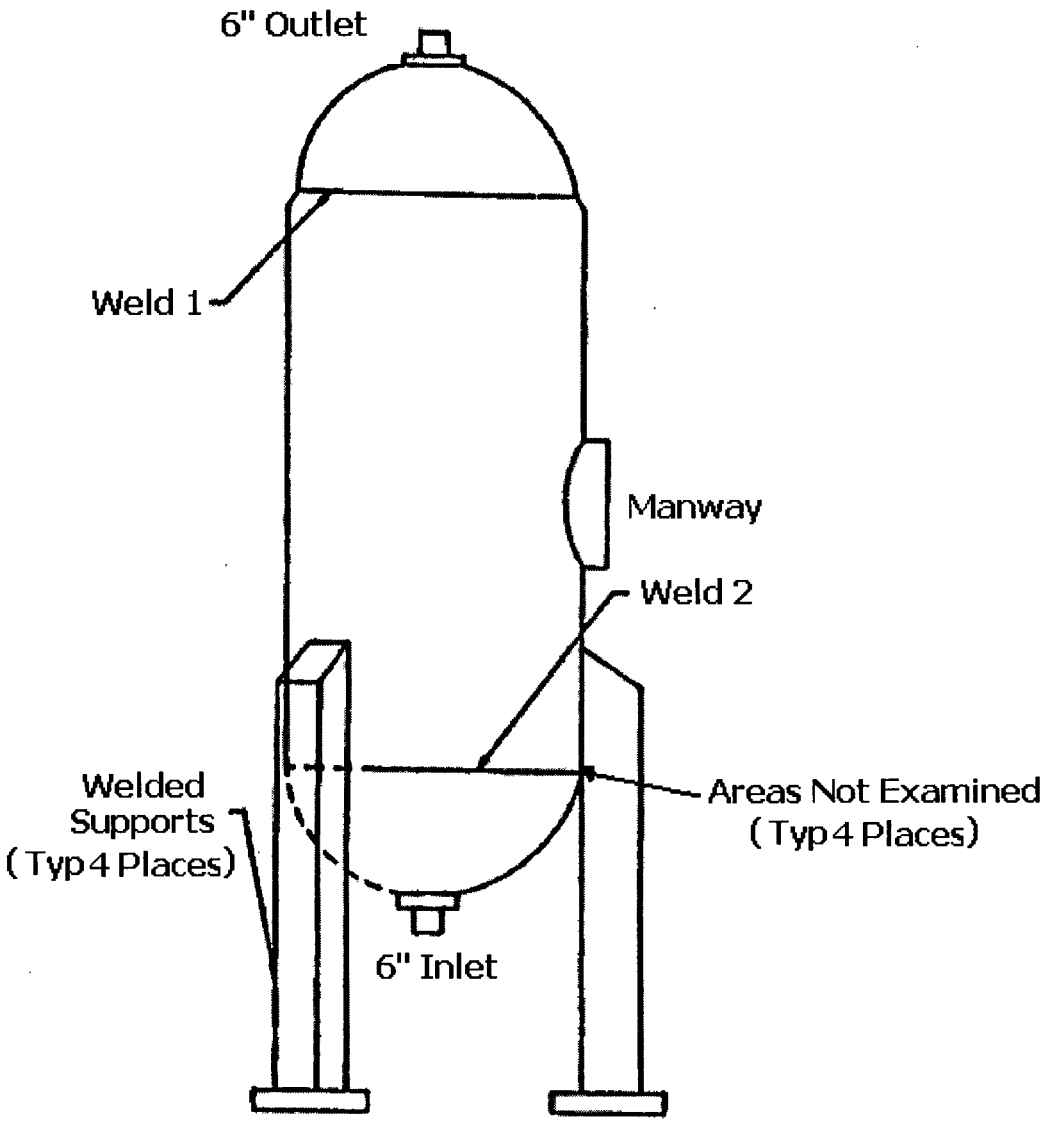
Detail View:



Side View:

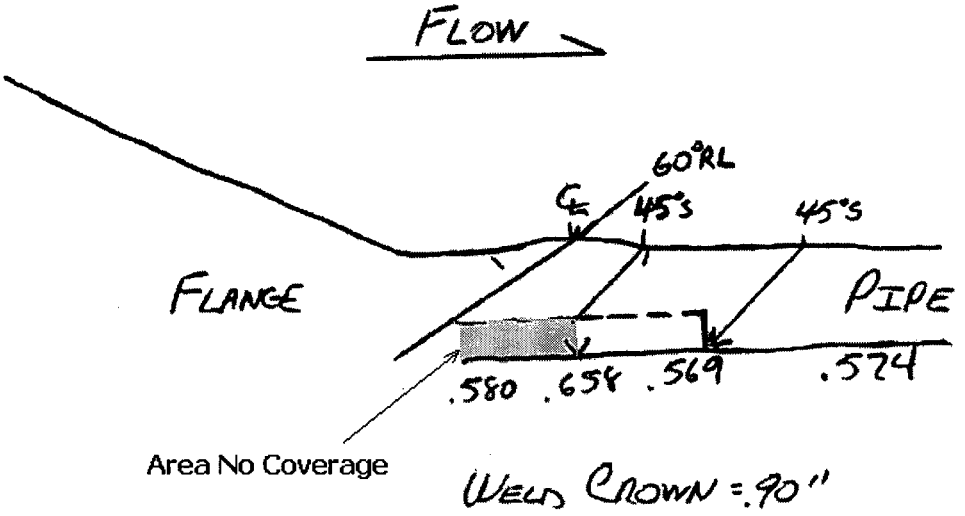

Weld 2-1120-31-2
0.88"
1.04"
0.89"
0.76"
0.76"
℄
45°s
60°RL
60°
45°
FLANGE
SHELL
PROFILE + THICKNESS
TAKEN @ 270°
WELD CROWN: FLUSH
1.5" WIDE
WELD LENGTH: 133.5"

Boron Injection Tank
Weld 2-1220-2



Weld Circumference = 167.60
Welded Supports = 8.0" wide (X4)
Total Limitation = 32"

Weld 2-2532-6



Weld 2-2546-3