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December 16, 2010

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Document Control Desk

SUBJECT: **R.E. Ginna Nuclear Power Plant**
Docket No. 50-244

10 CFR 50.55a Request ISI-02 and ISI-03: Relief From Impractical Examination Coverage Requirements Pursuant to 10 CFR50.55a(g)(5)(iii) for the Fourth Interval Inservice Inspection (ISI) Program

Pursuant to 10 CFR 50.55a(g)(5)(iii), R.E. Ginna Nuclear Power Plant, LLC (Ginna LLC) hereby requests relief from certain examination coverage requirements imposed by the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1995 Edition/1996 Addenda. This 10 CFR 50.55a request is for weld examinations performed during the 4th 10-Year ISI Interval, where the required coverage of 'essentially 100 percent' could not be obtained, when examined to the extent practical in accordance with ASME Section XI Code Case N-460 "Alternative Examination Coverage for Class 1 and 2 Welds". The basis for the 10 CFR 50.55a request is that compliance with the specified requirements is impractical as described in Relief Request ISI-02 and ISI-03.

Ginna LLC is submitting this request for the Fourth Interval Inservice Inspection (ISI) Program, which ended December 31, 2009.

There are no regulatory commitments contained in this letter. Should you have questions regarding this matter, please contact Thomas Harding (585) 771-5219, or Thomas.hardingjr@cengllc.com.

Very truly yours,

Paul Swift

A047
NRR

Enclosure (1): 10 CFR 50.55a R.E. Ginna Nuclear Power Plant – Fourth Interval Inservice (ISI) Inspection Program Relief Request ISI-02

Enclosure (2): 10 CFR 50.55a R.E. Ginna Nuclear Power Plant – Fourth Interval Inservice (ISI) Inspection Program Relief Request ISI-03

cc: W. M. Dean, NRC
D. V. Pickett, NRC
Resident Inspector, NRC (Ginna LLC)

ENCLOSURE (1)

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10 CFR 50.55a R.E. Ginna Nuclear Power Plant -
Fourth Interval Inservice (ISI) Inspection Program
Relief Request ISI-02

4th Interval Inservice Inspection Impracticality – Class 1 < 90% UT Coverage

1. ASME Code Component(s) Affected

ASME Code Class 1
Examination Categories: B-F, B-J, B-M-1
Item Numbers: B5.70, B9.11, B9.31, B12.40

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code, Section XI, 1995 Edition/1996 Addenda.

ASME Section XI Appendix VIII was implemented according to the schedule specified by 10 CFR 50.55a which occurred during Ginna Station Fourth Interval In-Service Inspection Program (1/1/2000 to 12/31/2009). All welds addressed in this relief were examined after the applicable supplement became effective.

3. Applicable Code Requirement

ASME Code, 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-F, Item Number B5.70,
B-J, Item Number B9.11,
B-J, Item Number B9.31
B-M-1, Item Number B12.40

Code Case N-460 permits a reduction in examination coverage of Class 1 and Class 2 welds provided the coverage reduction is less than 10%. Ginna Nuclear Power Plant (GNPP) 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 GNPP Unit 1 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 USAS B31.1, 1955 Edition for nuclear piping. Consequently, GNPP 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 plant 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."

GNPP 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. The ultrasonic examinations were performed using qualified manual examination techniques with approved transducers. Employing other examination techniques and additional angles would not achieve adequate Code coverage. The weld crown height and width was not a factor in the limitation of the examinations, if not noted.

Because of the selection criteria associated with these Examination Categories and Item Nos. examination of the welds in Table A is required. In accordance with IWB-2420 (a), the sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical.

Table A

Cat.	Item	Summary No.	Comp ID	Dia.	Thick.	Mat	Percent Coverage	Description
B-F	B5.70	I007190	NSE-4R	38″	4.30″	CS/CrNi/SS (690)	53	Steam Generator Nozzle to Safe-end
		I006990	NSE-3R	38″	4.30″	CS/CrNi/SS (690)	51.5	Steam Generator Nozzle to Safe-end
B-J	B9.11	I007000	PL-FW-III-R	36″	3.74″	CCSS/SS	0/*10	Elbow to Safe-end
		I007200	PL-FW-X-R	36″	3.74″	CCSS/SS	0/*10	Safe-end to Elbow
		I012000	PL-FW-XIII	31″	2.5″	SS/CSS	48	Elbow to Pump
		I012100	PL-FW-VI	29″	2.5″	SS/CSS	50	Pump to Pipe
		I013500	PL-FW-XV	31″	2.4″	SS/CSS	50	Elbow to Pump
		I013600	PL-FW-VIII	31″	2.5″	CSS/SS	50	Pump to pipe
		I014500	D	10″	1.0″	SS	74	Pipe to Nozzle
		I028900	A	10″	1.0″	SS	50	Valve to Pipe
		I029400	B	10″	1.0″	SS	49.5	Pipe to Valve
		I030300	CSW-5	10″	1.0″	SS	50	Tee to Nozzle
		I030400	A	10″	1.0″	SS	74	Nozzle to Pipe
		I030700	C	10″	1.0″	SS	49.5	Valve to Pipe
		I034300	H	10″	1.0″	SS	48.75	Pipe to Valve
		I035900	H	10″	1.0″	SS	50	Pipe to Valve
		I036200	J	6.5″	0.719″	SS	50	Valve to Pipe
B-J	B9.31	I011000	PL-FW-II	10″	2.5″	SS	75	10″ Branch Weld
B-M-1	B12.40	I059200	V-720-1 (Body Weld)	10″	1.36″	SS	50	10″ Valve
		I059205	V-720-2 (Body Weld)	10″	1.36″	SS	50	10″ Valve

*Code Coverage was 0%, best effort coverage was 10%.

B5.70 Nozzle to Safe End Welds, NSE-3R (Inlet) and NSE-4R (Outlet)

The "B" steam generator inlet/outlet nozzle to safe-end welds (NSE-3R and NSE-4R) are accessible only from the nozzle side based on the designed configuration. The weld crown and close proximity of the safe-end prohibits the ultrasonic wave entering the Code required examination volume at an angle that will integrate the weld volume for in-service flaws. The NDE techniques and procedures used incorporate examination techniques qualified under Appendix VIII of the ASME Section XI Code by the Performance Demonstration Initiative (PDI) for examination of the Steam Generator nozzle welds for single sided examination. 50.55a(b)(2)(xv)(A)(2) states in part, "Where examination from both sides is not possible on austenitic welds or dissimilar metal 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." The approved examination techniques have not been qualified in accordance with Appendix VIII to detect and size flaws on the opposite side of austenitic welds.

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

The "B" steam generator inlet/outlet nozzle to safe-end welds are considered as dissimilar metal welds consisting of a stainless steel clad-carbon steel nozzle with Inconel Alloy 690 weld material to a stainless steel safe-end. These welds have an outside diameter of 38 inches and a nominal wall thickness of 4.30 inches.

During the ultrasonic examination of this weld, less than 90% coverage of the required examination volume was obtained. The percentage of coverage reported for each weld represents the aggregate coverage from all scans performed on the weld and adjacent base material. The examination coverage was based on the aggregate from manual scans of 45° shear wave and 45° and 60° refracted longitudinal wave scans perpendicular and parallel to the weld in one axial direction and two circumferential directions and 0° longitudinal wave.

The Ginna LLC Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F. Therefore, the aggregate coverage will not meet the acceptance criteria of this Code Case. Additionally, Ginna LLC invoked Code Case N-663 for this weld and a surface examination was not performed. Code Case N-663 allows surface examinations to be limited to areas identified by the Owner as susceptible to outside surface attack. These welds were evaluated by Ginna LLC and determined that Code Case N-663 was applicable and a surface examination was not required.

There were no recordable indications found during the inspection of this weld.

In order to scan all of the required volume for this weld, the steam generator inlet/outlet nozzle to safe-end weld would have to be redesigned to allow scanning from both sides of the weld, which is impractical.

Radiography as an alternative is not feasible because of the limited ability to detect in-service flaws related to this configuration. IWB-2500, Table IWB-2500-1, Examination Category B-P System Leakage Tests and VT-2 visual examinations performed each refueling outage provide additional assurance of pressure boundary integrity. No alternative examinations were performed for these welds during the fourth inspection interval.

B9.11 Circumferential Pipe Welds PL-FW-III-R and PL-FW-X-R

The steam generator inlet and outlet elbow-to-safe-end welds (PL-FW-III-R, PL-FW-X-R 4) are accessible only from the safe-end/nozzle side based on the designed configuration. The close proximity of the safe-end and the cast material prohibits the ultrasonic wave entering the Code required examination volume at an angle that will integrate the weld volume for in-service flaws. There is no Appendix VIII qualified NDE technique for examination through cast stainless steel. These examinations were performed as a "best effort" attempt for flaw detection.

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

The "B' steam generator elbow-to-safe-end (Inlet) and safe-end-to-elbow (Outlet) are considered similar metal welds, consisting of a cast stainless steel elbow to a stainless steel safe-end. The welds have an outside diameter of 36 inches and a nominal wall thickness of 3.74 inches. When the weld joint was fitted and welded in place, there were some fit-up and internal offset issues. Due to the joint internal offset, 15 degree taper on the outside surface and final weld preparation all contributed to a complex weld geometry configuration. From the UT information that was gathered, it was determined that there was no design margin to remove additional material on the outside surface in order to remove the weld hump to improve scanning/coverage.

During the ultrasonic examination of this weld, less than 90% coverage of the required examination volume was obtained. The percentage of coverage reported for each weld represents the aggregate coverage from all scans performed on the weld and adjacent base material. The examination coverage was based on the aggregate from manual scans of 45° shear wave and 60° refracted longitudinal wave scans perpendicular and parallel to the weld in one axial direction and two circumferential directions and 0° longitudinal wave.

The Ginna LLC Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F. Therefore, the aggregate coverage will not meet the acceptance criteria of this Code

Case. Additionally, Ginna LLC invoked Code Case N-663 for these welds and surface examinations were not performed. Code Case N-663 allows surface examinations to be limited to areas identified by the Owner as susceptible to outside surface attack. These welds were evaluated by GNPP and determined that Code Case N-663 was applicable and a surface examination was not required.

There were no recordable indications found during the inspection of these welds.

In order to scan all of the required volume for this weld, the steam generator elbow-to-safe-end welds would have to be redesigned to allow scanning from both sides of the weld, which is impractical.

Radiography as an alternative is not feasible because of the limited ability to detect in-service flaws related to this configuration. IWB-2500, Table IWB-2500-1, Examination Category B-P System Leakage Tests and VT-2 visual examinations performed each refueling outage provide additional assurance of pressure boundary integrity. No alternative examinations were performed for these welds during the fourth inspection interval.

B9.11 Circumferential Pipe Welds, PL-FW-XIII, PL-FW-VI, PL-FW-XV, PL-FW-VIII, D, A, B, CSW-5, A, C, H, H and J:

The ultrasonic examination of the above pipe welds was limited in coverage due to component configuration and/or immovable physical barriers. 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 based on the scanning surface angle of the component. Other obstructions were also present such as welded information tags; 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. The NDE techniques and procedures used incorporate examination techniques qualified under Appendix VIII of the ASME Section XI Code by the PDI for examination of the pipe welds. 50.55a(b)(2)(xv)(A)(2) states in part, "Where examination from both sides is not possible on austenitic welds or dissimilar metal 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." The approved examination techniques have not been qualified in accordance with Appendix VIII to detect and size flaws on the opposite side of austenitic welds.

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

The Ginna LLC Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F.

Therefore, the aggregate coverage will not meet the acceptance criteria of this Code Case. Additionally, Ginna LLC invoked Code Case N-663 for the third period of the fourth ISI interval. Code Case N-663 was invoked for welds PL-FW-XIII, PL-FW-VIII, D, A, B, CSW-5, A, C and H (I034300), no surface examination was performed. Code Case N-663 allows surface examinations to be limited to areas identified by the Owner as susceptible to outside surface attack. These welds were evaluated by Ginna LLC to determine the applicability of Code Case N-663. Where appropriate, the surface examination was not performed. Welds PL-FW-VI, PL-FW-XV, H (I035900), and J did have a surface examination performed during the fourth interval in accordance with the Code.

There were no recordable indications found during the inspection of these welds.

In order to scan all of the required volume for this weld, the components would have to be redesigned to allow scanning from both sides of the weld, which is impractical.

Radiography as an alternative is not feasible because of the limited ability to detect in-service flaws related to this configuration. IWB-2500, Table IWB-2500-1, Examination Category B-P System Leakage Tests and VT-2 visual examinations performed each refueling outage provide additional assurance of pressure boundary integrity. No alternative examinations were performed for these welds during the fourth inspection interval.

B9.31 Branch Weld, PL-FW-II:

The ultrasonic examination of the above branch weld 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 based on the scanning surface angle of the component therefore, the weld only received a 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. The NDE techniques and procedures used incorporate examination techniques qualified under Appendix VIII of the ASME Section XI Code by the PDI for examination of the pipe welds. 50.55a(b)(2)(xv)(A)(2) states in part, "Where examination from both sides is not possible on austenitic welds or dissimilar metal 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." The approved examination techniques have not been qualified in accordance with Appendix VIII to detect and size flaws on the opposite side of austenitic welds.

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

Weld PL-FW-II did have a surface examination performed during the fourth interval in accordance with the Code.

The Ginna LLC Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F. Therefore, the aggregate coverage will not meet the acceptance criteria of this Code Case.

There were no recordable indications found during the inspection of these welds.

In order to scan all of the required volume for this weld, the components would have to be redesigned to allow scanning from both sides of the weld, which is impractical.

Radiography as an alternative is not feasible because of the limited ability to detect in-service flaws related to this configuration. IWB-2500, Table IWB-2500-1, Examination Category B-P System Leakage Tests and VT-2 visual examinations performed each refueling outage provide additional assurance of pressure boundary integrity. No alternative examinations were performed for these welds during the fourth inspection interval.

B12.40 Valve Body Welds, V-720-1 and V-720-2:

The ultrasonic examination of the above valve body welds was limited in coverage due to component configuration. The valves have an extension circumferentially welded to one end of the valve. It is not possible to perform the ultrasonic examination from both sides of the weld since the valve side of the weld was not suitable for scanning based on the scanning surface angle of the component. Therefore, the weld only received a 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. The NDE techniques and procedures used incorporate examination techniques qualified under Appendix VIII of the ASME Section XI Code by the PDI for examination of the pipe welds. 50.55a(b)(2)(xv)(A)(2) states in part, "Where examination from both sides is not possible on austenitic welds or dissimilar metal 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." The approved examination techniques have not been qualified in accordance with Appendix VIII to detect and size flaws on the opposite side of austenitic welds.

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

The Ginna LLC Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F. Therefore, the aggregate coverage will not meet the acceptance criteria of this Code Case.

Code Item Number B12.40 only requires a volumetric examination to be performed. There were no recordable indications found during the inspection of these welds.

In order to scan all of the required volume for this weld, the components would have to be redesigned to allow scanning from both sides of the weld, which is impractical.

Radiography as an alternative is not feasible because of the limited ability to detect in-service flaws related to this configuration. IWB-2500, Table IWB-2500-1, Examination Category B-P System Leakage Tests and VT-2 visual examinations performed each refueling outage provide additional assurance of pressure boundary integrity. No alternative examinations were performed for these welds during the fourth inspection interval.

5. Burden Caused by Compliance

In order to scan all of the required volume for this weld, the components would have to be redesigned to allow scanning from both sides of the weld, which is impractical. There were no recordable 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 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. Ginna LLC utilized examination techniques qualified to meet the requirements of ASME Section XI, Appendix VIII, as required in 10 CFR 50.55a(g)(6)(ii)(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 flaw on the opposite side of the weld." The Appendix VIII techniques applied at GNPP, (PDI-UT-2) 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, Ginna LLC was not able to achieve greater that 90% Code coverage of the required examination volume for the components listed above with out major modifications to the components.

6. Proposed Alternative and Basis for Use

No alternative examinations are planned for the welds during the Fourth inspection interval. Ultrasonic examinations performed during the Fourth inspection interval utilized the latest industry/Appendix VIII approved manual techniques established at the time to obtain the maximum ASME Section XI examination coverage. The use of radiography (RT) as an alternate volumetric examination for all the above listed components is not practical due to geometric configuration and to the limited ability of RT to detect in-service flaws. 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 additional assurance that the structural integrity of the subject components is maintained. Also, code surface examinations were performed as applicable and as identified within the above Code Item Number discussion.

Ultrasonic examination of the welds was conducted using personnel qualified in accordance with ASME Section XI, Appendix VII as specified by 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, pressure test and applicable surface examinations), there are other activities which provide a high level of confidence that, in the unlikely event that leakage did occur through this weld it would be detected and proper action taken. Specifically, system leak rate limitations imposed by Technical Specifications 3.4.13, "RCS Operational Leakage," as well as reactor building normal sump rate monitoring, provide additional assurance that any leakage would be detected prior to gross failure of the component. The identified welds were inspected by volumetric and surface NDE methods during construction and verified to be free from unacceptable fabrication defects.

ASME Code, Section XI, Sub-article IWB-2420(a) states, "The sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical". The ASME Section XI inspection program for Class 1 is a random sample of welds based on specific selection criteria that represents 25% or the reactor coolant system welds. Even though the examinations that are subject to this relief request did not obtain full coverage, others did. Because the systems are designed and constructed using similar requirements and materials, the cumulative results of all examinations ensure that general degradation of the affected systems is not occurring. The limited examinations of the welds specific to this request, the VT-2 examination performed during the leakage test, applicable surface

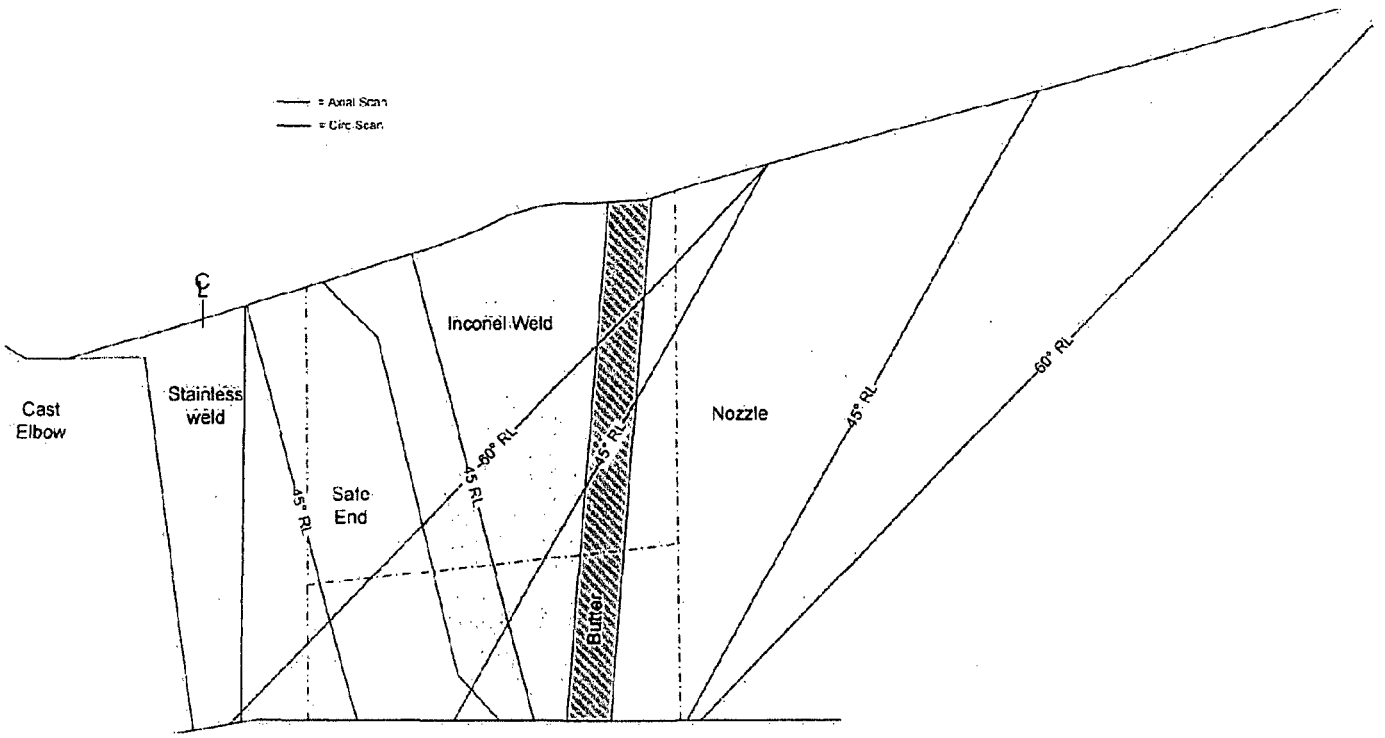
examinations, combined with the examination results of other Class 1 welds provides assurance that quality and safety are being maintained.

7. Duration of Proposed Alternative

Relief is requested for the Fourth Ten-year Interval of the Inservice Inspection Program for Ginna LLC which was effective from 01/01/2000, and ended 12/31/2009.

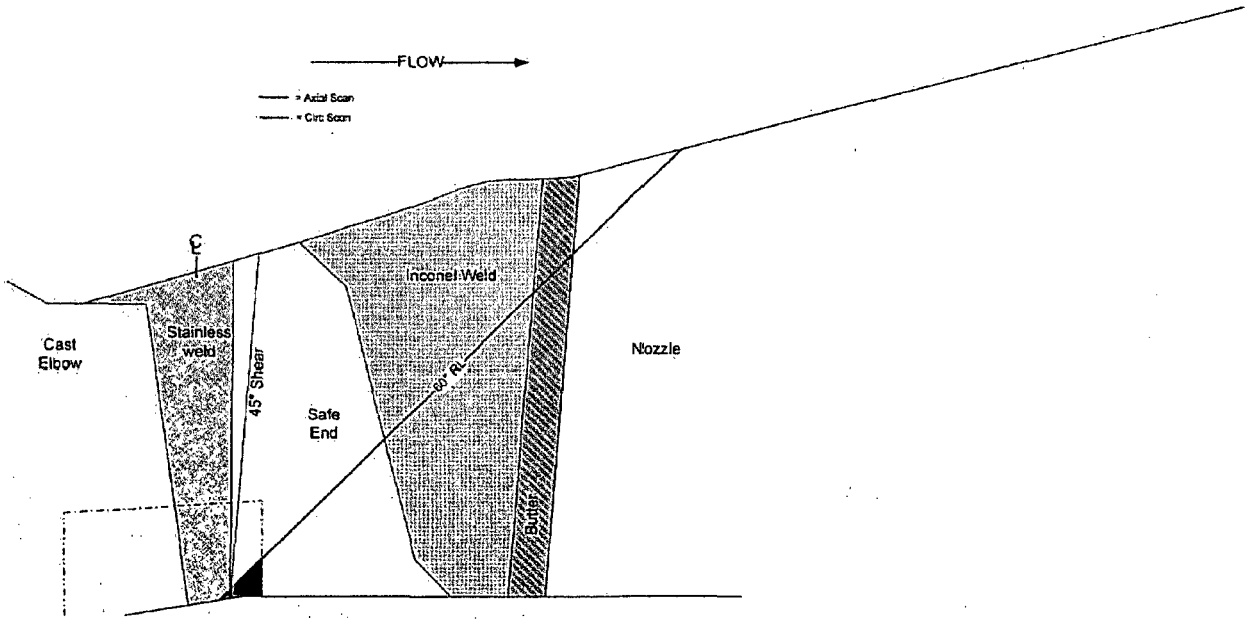
Attachment 1
Weld Cross-Sectional Views

Item B5.70
Component ID: NSE-3R (I006990)
(Inconel Weld = 690)
Wave Modality and Insonification Angle(s): 0°, 45° S, 45° L and 60° L (Axial and Circ Directions) were used where scanning was accessible.

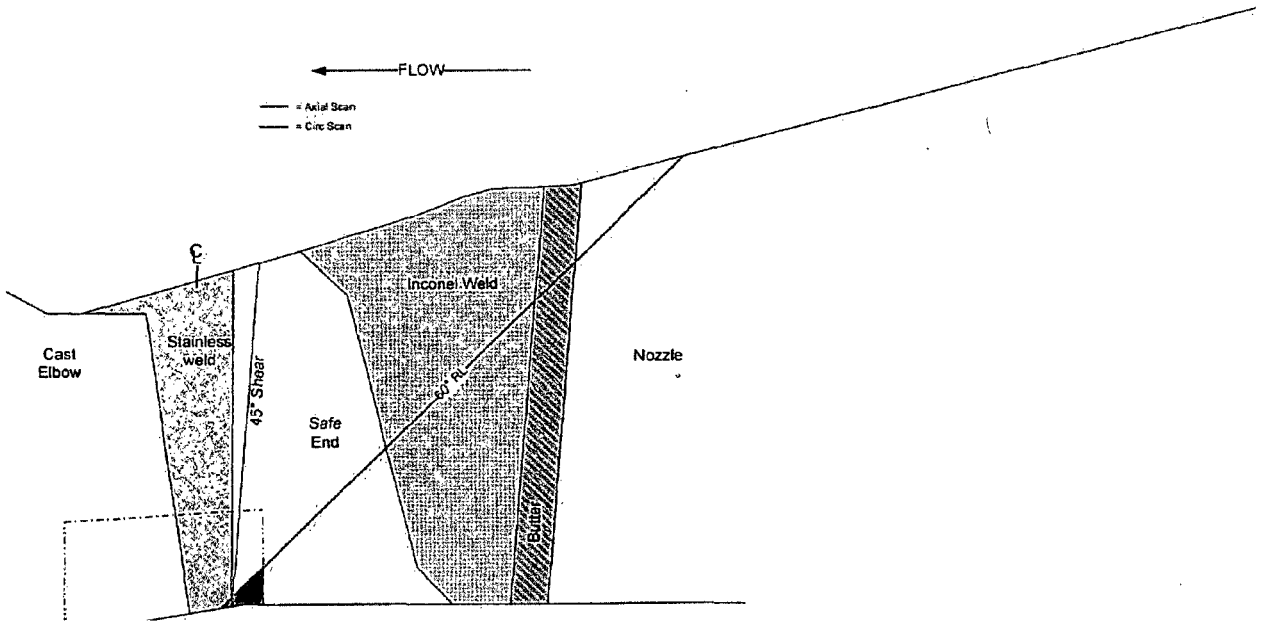


Attachment 1
Weld Cross-Sectional Views

Item 9.11
Component ID: PL-FW-III-R (I007000)
Wave Modality and Insonification Angle(s): 0°, 45° S, and 60° L (Axial and Circ Directions) were used where scanning was accessible.

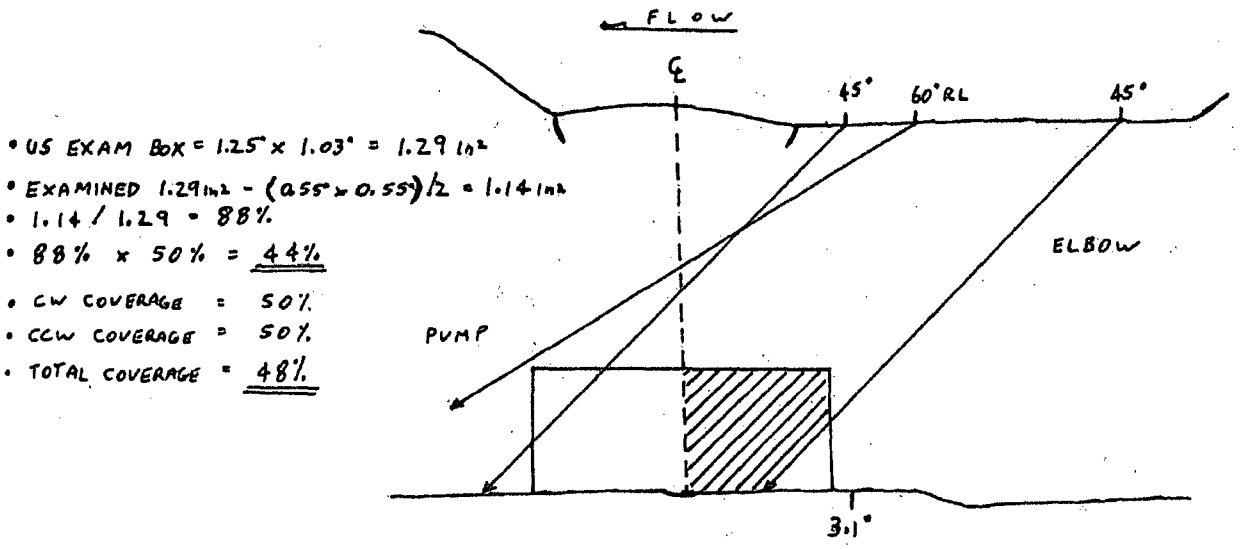


Item 9.11
Component ID: PL-FW-X-R (I007200)
Wave Modality and Insonification Angle(s): 0°, 45° S, and 60° L (Axial and Circ Directions) were used where scanning was accessible.

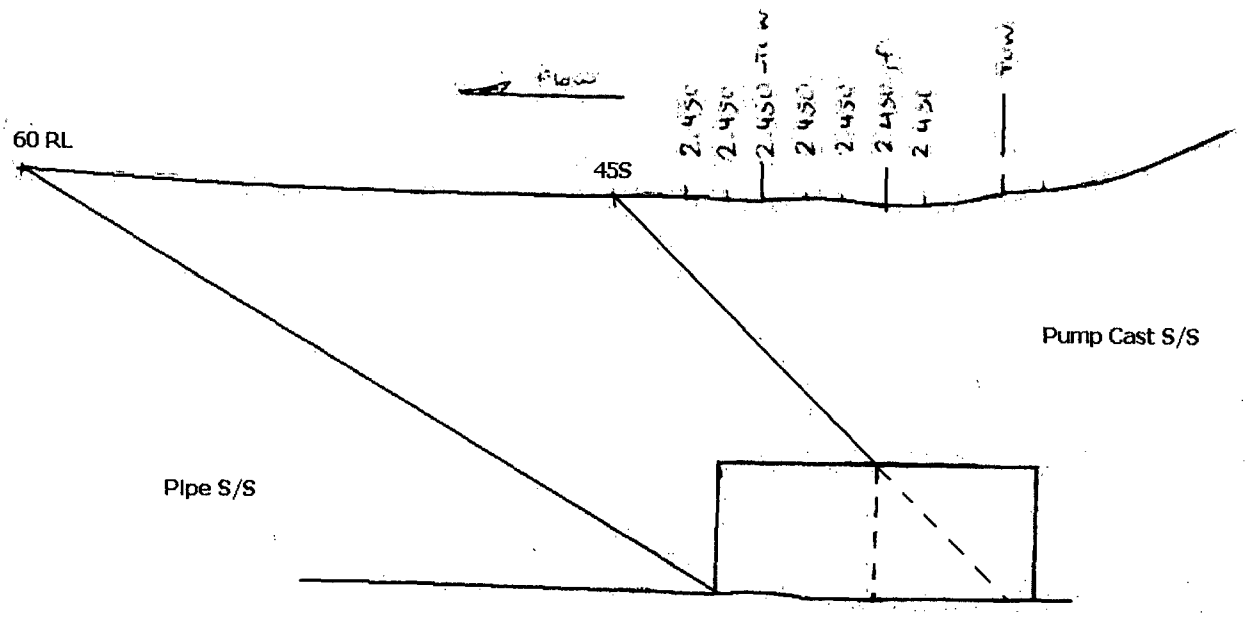


Attachment 1
Weld Cross-Sectional Views

Item B9.11
Component ID: PL-FW-XIII (I012000)
Limitation due to elbow curvature.
Wave Modality and Insonification Angle(s): 0°, 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.

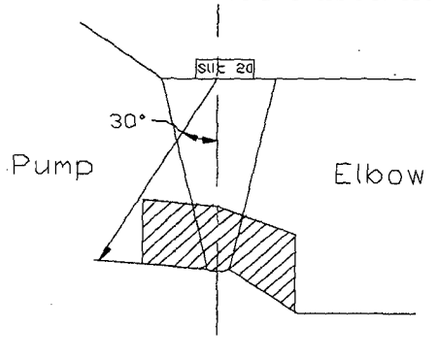


Item B9.11
Component ID: PL-FW-VI (I012100)
Limitation –one sided exam.
Wave Modality and Insonification Angle(s): 0°, 45° S, and 60° L (Axial and Circ Directions) were used where scanning was accessible.

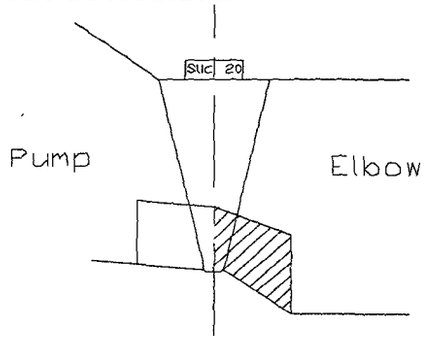


Attachment 1
Weld Cross-Sectional Views

Item B9.11
Component ID: PL-FW-XV (I013500)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 20° L/30° L (Axial and Circ Directions) were used where scanning was accessible.



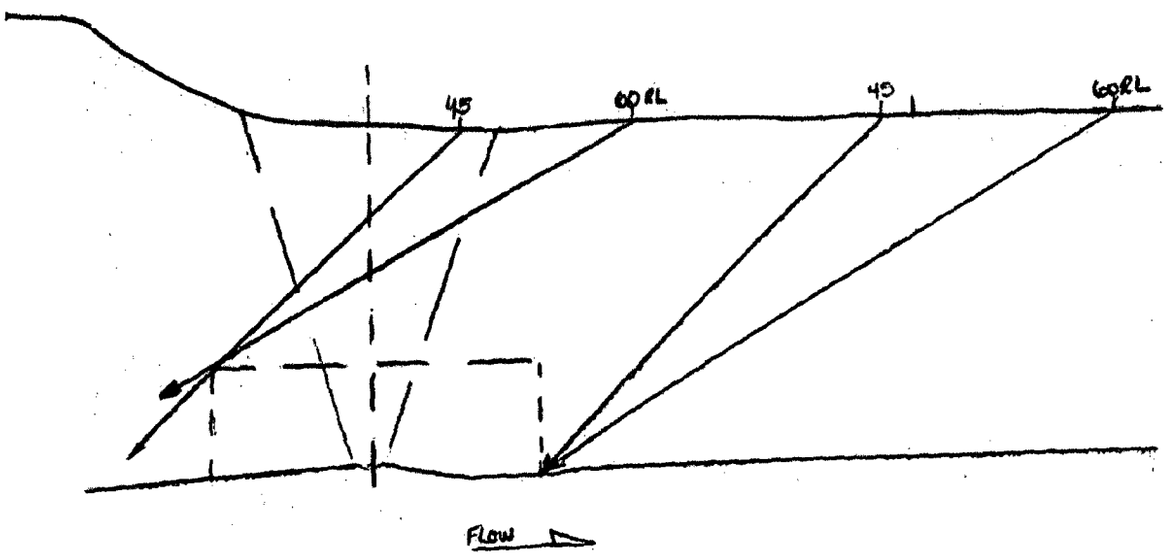
Axial Exam



Circ Exam

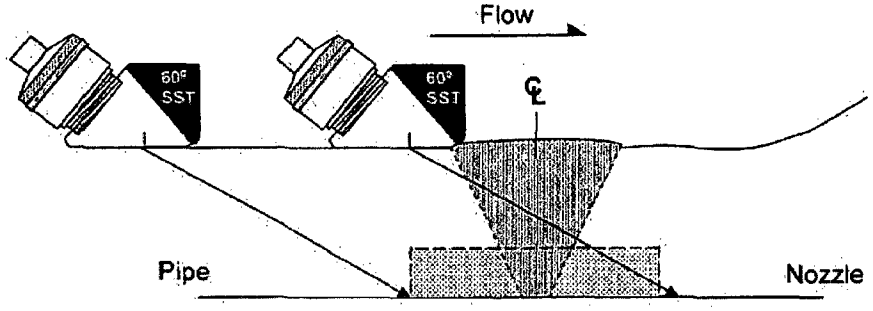
Exam from elbow side only
Axial direction coverage = 50%
Circ direction Coverage = 50%

Item B9.11
Component ID: PL-FW-VIII (I013600)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.



Attachment 1
Weld Cross-Sectional Views

Item B9.11
Component ID: D (I014500)
Wave Modality and Insonification Angle(s): 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.

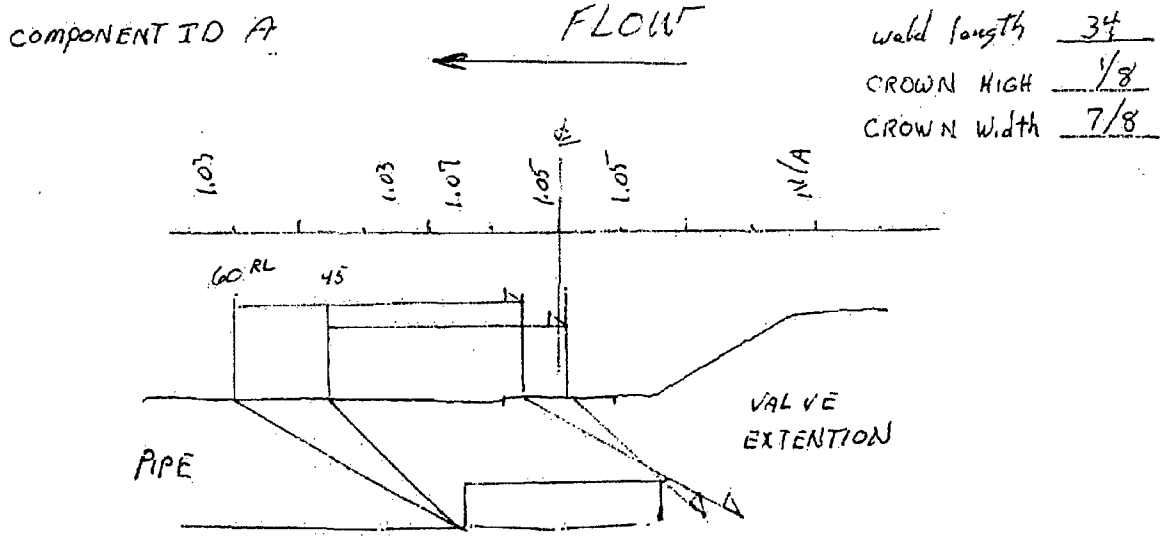


Exam Limitations: No axial exam on DS side due to nozzle taper.
Welded ID tag on US side, 1.5" long, 1.75" from weld, at 180°. Best effort axial exam performed in this area, no coverage credit taken.

Coverage Calc:
US axial: 32.5" of 34" = 96%
DS axial: 0%
US circ: 100%
DS circ: 100%

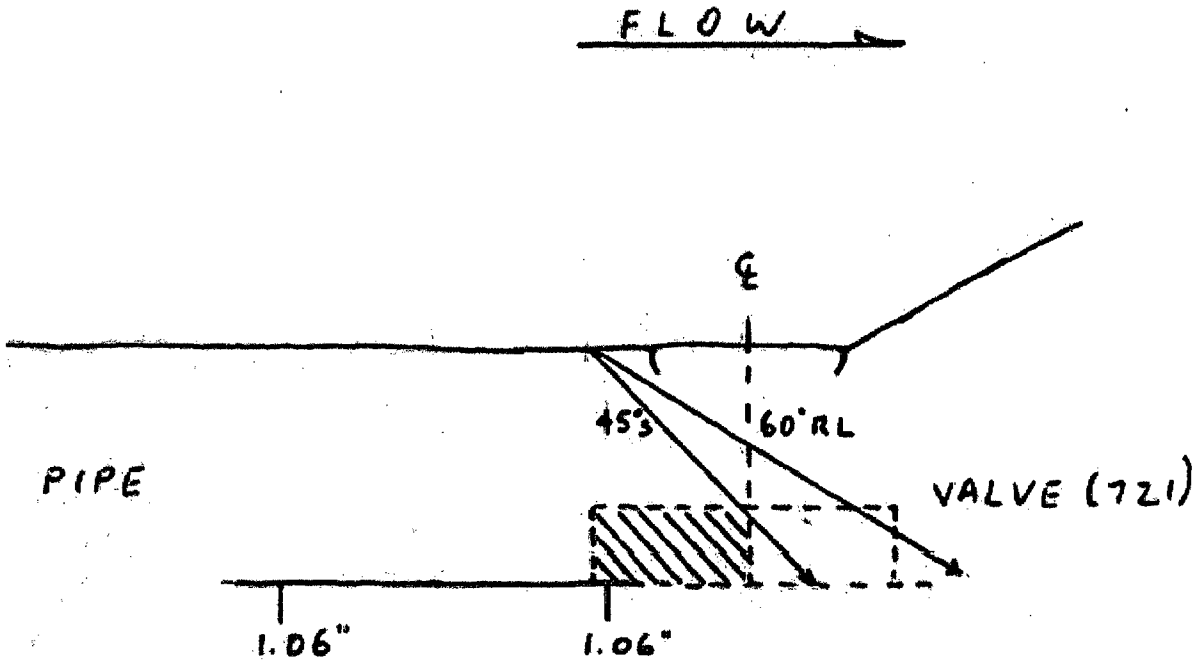
(96% + 0% + 100% + 100%) / 4 = 74%

Item B9.11
Component ID: A (I028900)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, and 60° L (Axial and Circ Directions) were used where scanning was accessible.

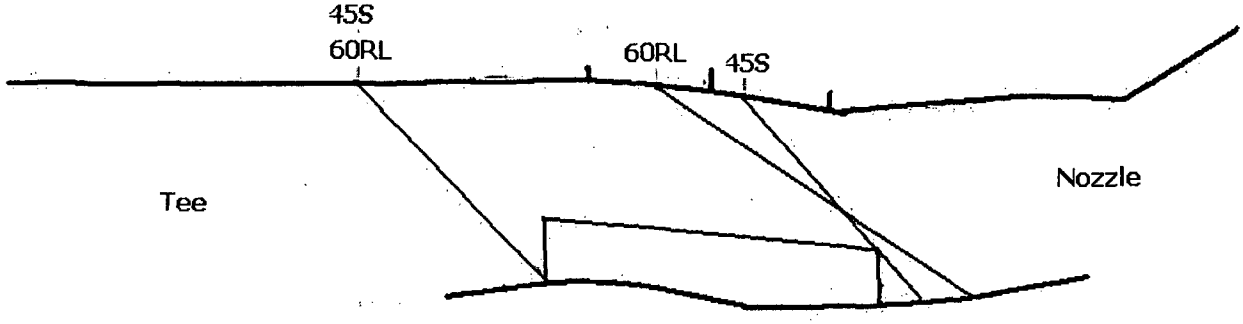


Attachment 1
Weld Cross-Sectional Views

Item B9.11
Component ID: B (I029400)
Limitation - ID Tag – Top Dead Center – 1.0" Wide – 0.8" from toe of weld.
Wave Modality and Insonification Angle(s): 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.

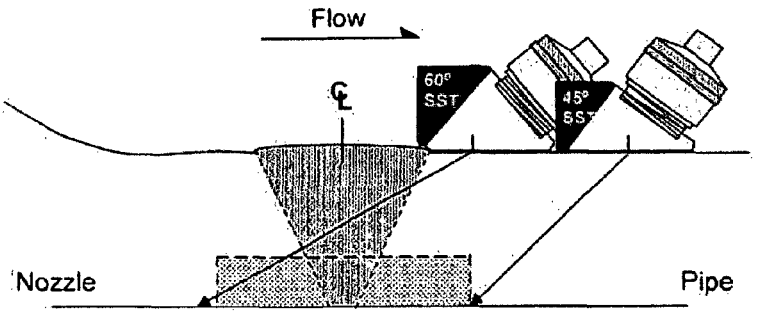


Item B9.11
Component ID: CSW-5 (I030300)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, and 60° L (Axial and Circ Directions) were used where scanning was accessible.



Attachment 1
Weld Cross-Sectional Views

Item B9.11
Component ID: A (I030400)
Wave Modality and Insonification Angle(s): 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.

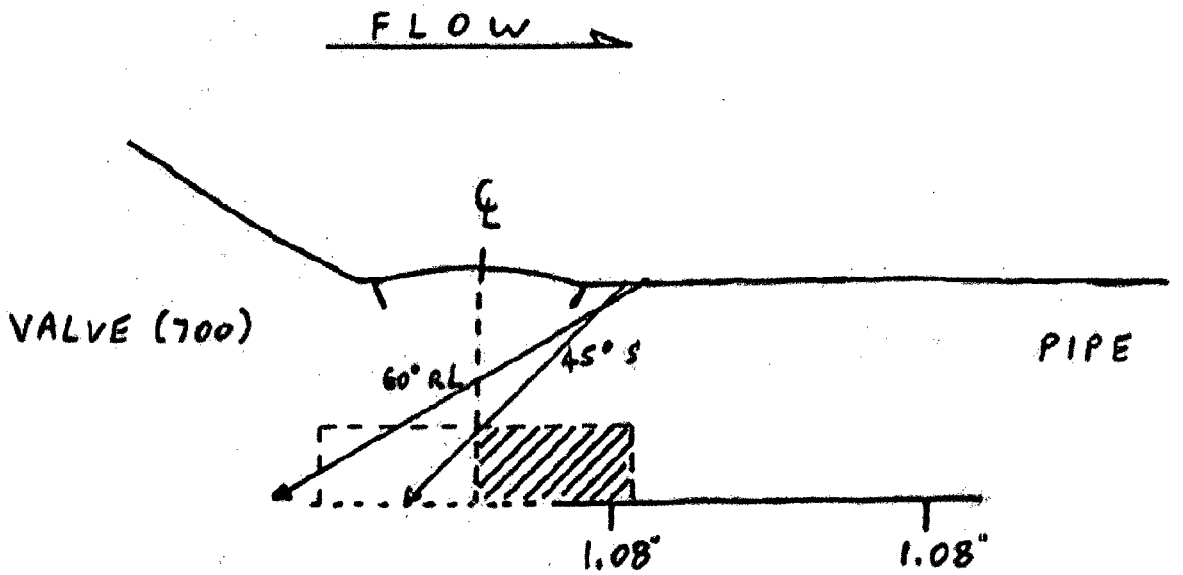


Exam Limitations: No axial exam on US side due to nozzle taper.
Welded ID tag on DS side, 1.5" long, 1.75" from weld, at 180°. Best effort axial exam performed in this area, no coverage credit taken.

Coverage Calc:
US axial: 0%
DS axial: 32.5" of 34" = 96%
US circ: 100%
DS circ: 100%

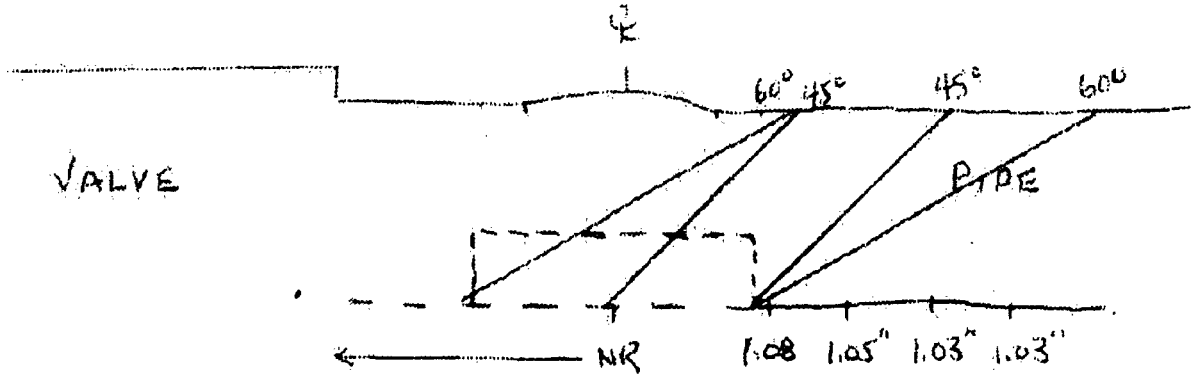
(0% + 96% + 100% + 100%) / 4 = 74%

Item B9.11
Component ID: C (I030700)
Limitation - ID Tag – Top Dead Center – 1.0" Wide – 0.8" from toe of weld.
Wave Modality and Insonification Angle(s): 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.

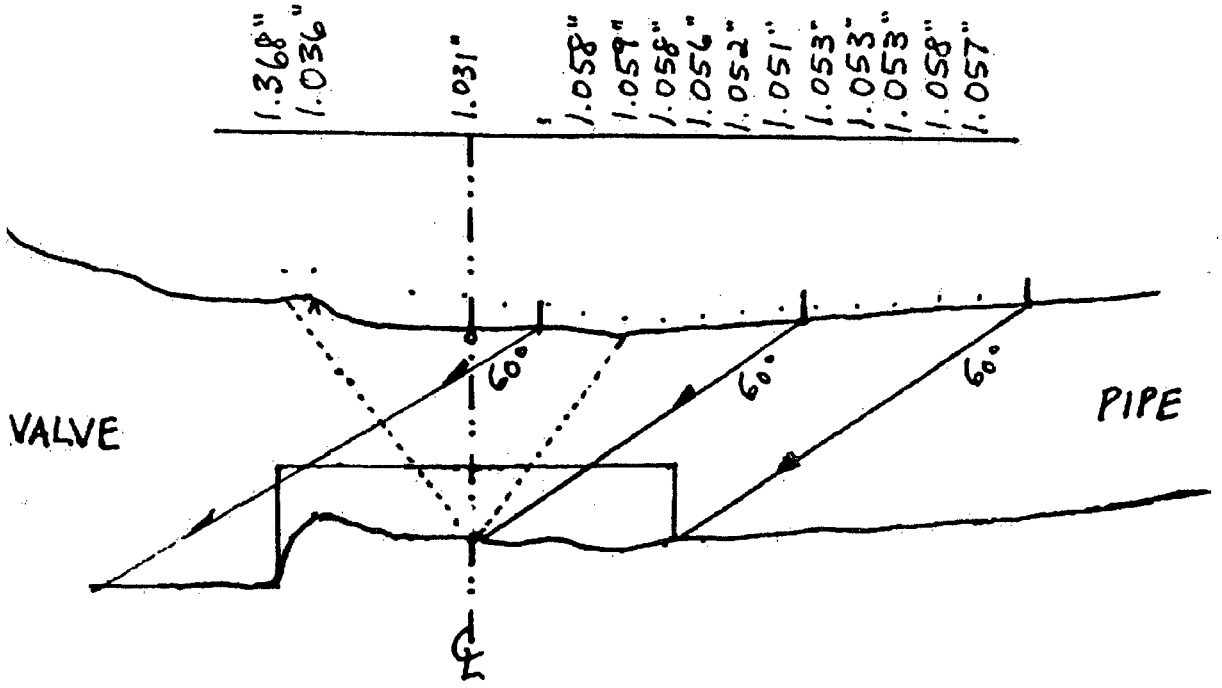


Attachment 1
Weld Cross-Sectional Views

Item B9.11
Component ID: H (I034300)
Limitation - ID Tag – Top Dead Center – 1.25" Wide – 1.6" from toe of weld.
Wave Modality and Insonification Angle(s): 0°, 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.

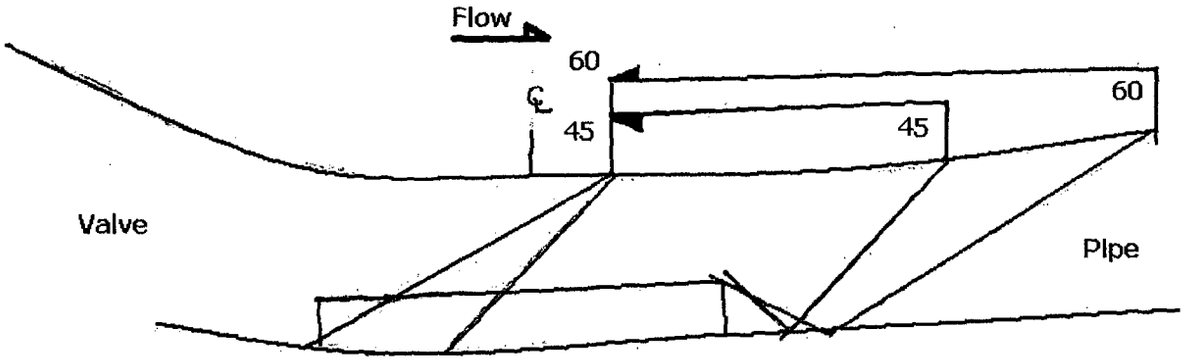


Item B9.11
Component ID: H (I035900)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 0°, and 60° S (Axial and Circ Directions) were used where scanning was accessible.

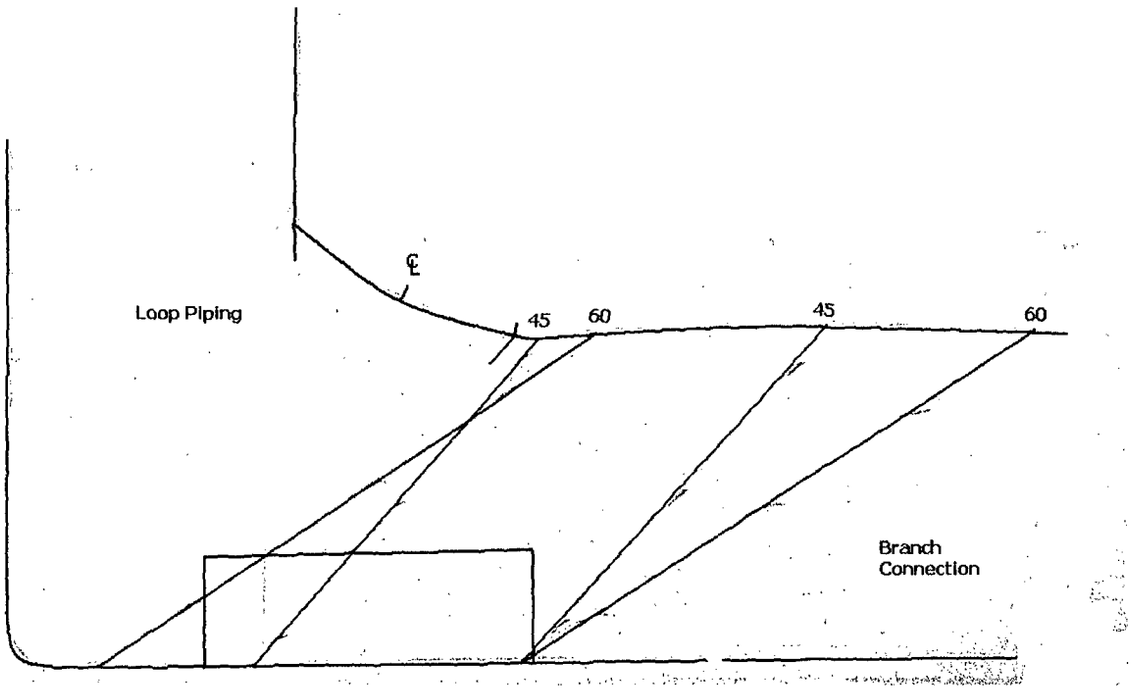


Attachment 1
Weld Cross-Sectional Views

Item B9.11
Component ID: J (I036200)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, and 60° S (Axial and Circ Directions) were used where scanning was accessible.

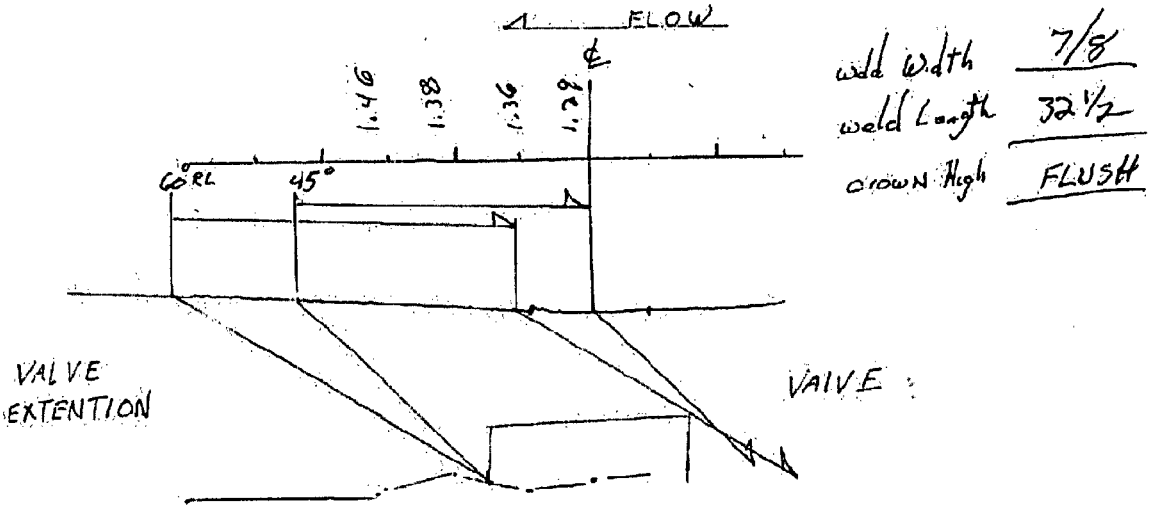


Item B9.31
Component ID: PL-FW-II (I011000)
Limitation – Scan from Loop Pipe to Branch (25%).
Wave Modality and Insonification Angle(s): 0°, 45° S, 60° S and 60° L (Axial and Circ Directions) were used where scanning was accessible.

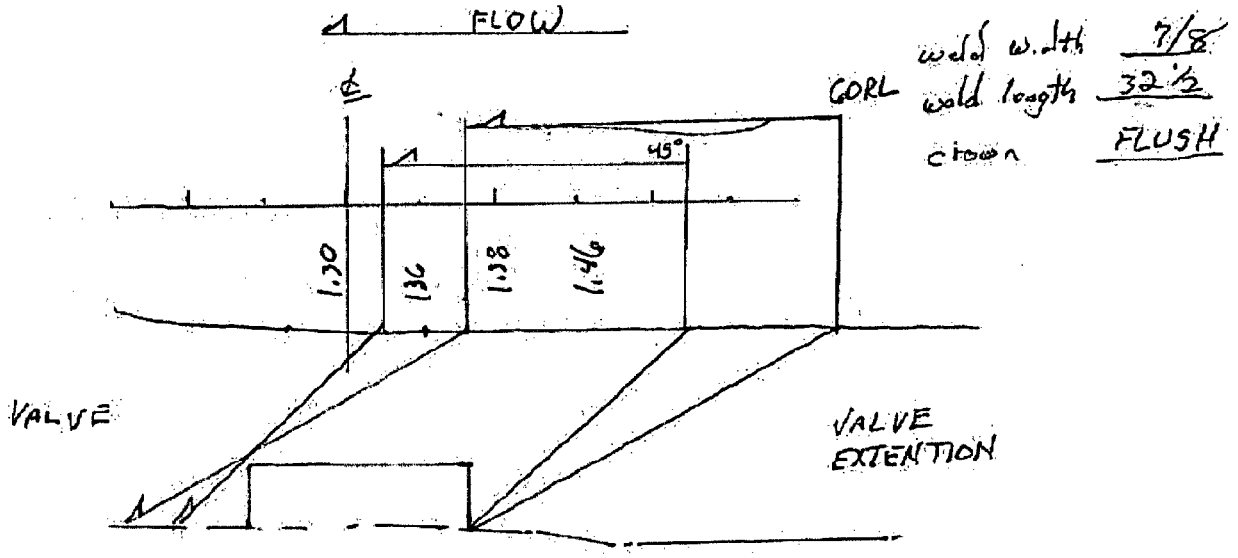


Attachment 1
Weld Cross-Sectional Views

Item B12.40
Component ID: V-720-1 (I059200)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, and 60° L (Axial and Circ Directions) were used where scanning was accessible.



Item B12.40
Component ID: V-720-2 (I059205)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, and 60° L (Axial and Circ Directions) were used where scanning was accessible.



ENCLOSURE (2)

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10 CFR 50.55a R.E. Ginna Nuclear Power Plant -
Fourth Interval Inservice (ISI) Inspection Program
Relief Request ISI-03

4th Interval Inservice Inspection Impracticality – Class 2 < 90% UT Coverage

1. ASME Code Component(s) Affected

ASME Code Class 2
Examination Categories: C-F-1 and C-F-2
Item Numbers: C5.21 and C5.51

2. Applicable Code Edition and Addenda

American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code, Section XI, 1995 Edition/1996 Addenda.

ASME Section XI Appendix VIII was implemented according to the schedule specified by 10 CFR 50.55a which occurred during Ginna Station Fourth Interval In-Service Inspection Program (1/1/2000 to 12/31/2009). All welds addressed in this relief were examined after the applicable supplement became effective.

3. Applicable Code Requirement

ASME Code, 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 Category:

C-F-1, Item Number C5.21 and C-F-2, Item Numbers C5.51

Code Case N-460 permits a reduction in examination coverage of Class 1 and Class 2 welds provided the coverage reduction is less than 10%. Ginna Nuclear Power Plant (Ginna LLC) 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 Ginna Nuclear Power Plant (Ginna LLC) 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 USAS B31.1, 1955 Edition for nuclear piping. Consequently, Ginna LLC 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

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."

Ginna LLC 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.

Because of the selection criteria associated with these Examination Categories and Item Nos., examination of the welds in Table A is required. In accordance with IWC-2420 (a), the sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical.

Table A

Cat	Item	Summary No.	Comp ID	Dia	Thk	Mat	Percent Coverage	Description
C-F-1	C5.21	I162770	18	3.8"	0.30"	SS	82.5	Pipe to Tee
		I163070	6	3"	0.30"	SS	50	Pipe to Valve
		I163220	14	3"	0.31"	SS	50	Valve to Pipe
		I163230	15	3"	0.31"	SS	50	Pipe to Valve
		I163570	8	3"	0.30"	SS	50	Valve to Pipe
		I164300	56	4"	0.337"	SS	75	Flange to Pipe
C-F-2	C5.51	I083900	G2-BC-2-A	6"	0.432"	CS	84.7	Pipe to Valve
		I090400	L2-BC-2-A	6"	0.432"	CS	86	Pipe to Valve

Item C5.21 Circumferential Pipe Welds, 18, 6, 14, 15, 8 and 56

The ultrasonic examination of the above 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 based on the scanning surface angle 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. The examination coverage was based on the aggregate from manual scans of shear and longitudinal wave scans perpendicular and parallel to the weld in one axial direction and two circumferential directions and 0° longitudinal wave.

The NDE techniques and procedures used incorporate examination techniques qualified under Appendix VIII of the ASME Section XI Code by the PDI for examination of the pipe welds. 50.55a(b)(2)(xv)(A)(2) states in part, "Where examination from both sides is not possible on austenitic welds or dissimilar metal 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." The approved examination techniques have not been qualified in accordance with Appendix VIII to detect and size flaws on the opposite side of austenitic welds.

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

The Ginna LLC Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F. Therefore, the aggregate coverage will not meet the acceptance criteria of this Code Case. Additionally, Ginna LLC invoked Code Case N-663 for the third period of the fourth ISI interval. Code Case N-663 was invoked for welds 18 and 6 with no surface examinations performed. Code Case N-663 allows surface examinations to be limited to areas identified by the Owner as susceptible to outside surface attack. These welds were evaluated by Ginna LLC to determine the applicability of Code Case N-663. Where appropriate, the surface examination was not performed. Weld numbers 14, 15, 8 and 56 did have surface examinations performed during the fourth interval in accordance with the Code.

There were no recordable indications found during the inspection of these welds.

In order to scan 100% of the required volume for these welds, the component configuration would have to be redesigned to allow scanning from both sides of the weld, which is impractical.

Radiography as an alternative is not feasible because of the limited ability to detect in-service flaws related to this configuration. IWC-2500, Table IWC-2500-1, Examination Category C-H System Leakage Tests and VT-2 visual examinations were also performed each inspection period and provide additional assurance of pressure boundary integrity.

Item C5.51 Circumferential Pipe Welds, G2-BC-2-A and L2-BC-2-A

The ultrasonic examination of the above pipe welds was limited in coverage due to component configuration and/or immovable physical barriers. The percentage of coverage reported represents the aggregate coverage from all examination angles and scans performed on the weld and adjacent base material. The examination coverage was based on the aggregate from manual scans of shear and longitudinal wave scans perpendicular and parallel to the weld in one axial direction and two circumferential directions and 0° longitudinal wave.

During the ultrasonic examination of this weld, less than 90% coverage of the required examination volume was obtained. The NDE techniques and procedures used incorporate examination techniques qualified under Appendix VIII of the ASME Section XI Code by the PDI for examination of the pipe welds.

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

The Ginna LLC Inservice Inspection Plan allows the use of Code Case N-460, which requires greater than 90% volumetric coverage of examination volume C-D-E-F. Therefore, the aggregate coverage will not meet the acceptance criteria of this Code Case. Additionally, Ginna LLC invoked Code Case N-663 for the third period of the fourth ISI interval. Code Case N-663 was invoked for weld number G2-BC-2-A and no surface examination was performed. Code Case N-663 allows surface examinations to be limited to areas identified by the Owner as susceptible to outside surface attack. This weld was evaluated by Ginna LLC to determine the applicability of Code Case N-663. Where appropriate, the surface examination was not performed. Weld number L2-BC-2-A did have a surface examination performed during the fourth interval in accordance with the Code.

There were no recordable indications found during the inspection of these welds.

In order to scan all of the required volume for these welds, the component configuration would have to be redesigned, which is impractical.

Radiography as an alternative is not feasible because of the limited ability to detect in-service flaws related to this configuration. IWC-2500, Table IWC-2500-1, Examination Category C-H System Leakage Tests and VT-2 visual examinations were also performed each inspection period and provide additional assurance of pressure boundary integrity.

5. Burden Caused by Compliance

In order to scan all of the required volume for this weld, the components would have to be redesigned to allow scanning from both sides of the weld, which is impractical. There were no recordable 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 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. Ginna LLC utilized examination techniques qualified to meet the requirements of ASME Section XI, Appendix VIII, as required in 10 CFR 50.55a(g)(6)(ii)(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 were performed on the subject welds each period of the fourth interval during code required system pressure tests. These examinations were completed each period and no evidence of leakage was identified.

Based on the design configuration of the components and available examinations techniques, Ginna LLC 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 planned for the welds during the Fourth inspection interval. Ultrasonic examinations performed during the Fourth inspection interval utilized the latest industry/Appendix VIII approved manual techniques established at the time to obtain the maximum ASME Section XI examination coverage. The use of radiography (RT) as an alternate volumetric examination for all the above listed welds is not practical due geometric configuration and to the limited ability of RT to detect in-service flaws. 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 which did not insure the inspectability of welds, the underlying objectives of the Code required volumetric examinations have been met. The examinations were completed to the extent practical with no unacceptable flaws present. VT-2 examinations performed on the subject Class 2 welds during system pressure testing each inspection period provide additional assurance that the structural integrity of the subject welds is maintained.

Ultrasonic examination of the welds was conducted using personnel qualified in accordance with ASME Section XI, Appendix VII as specified by 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 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. The component welds were inspected by volumetric and surface NDE methods during construction and verified to be free from unacceptable fabrication defects.

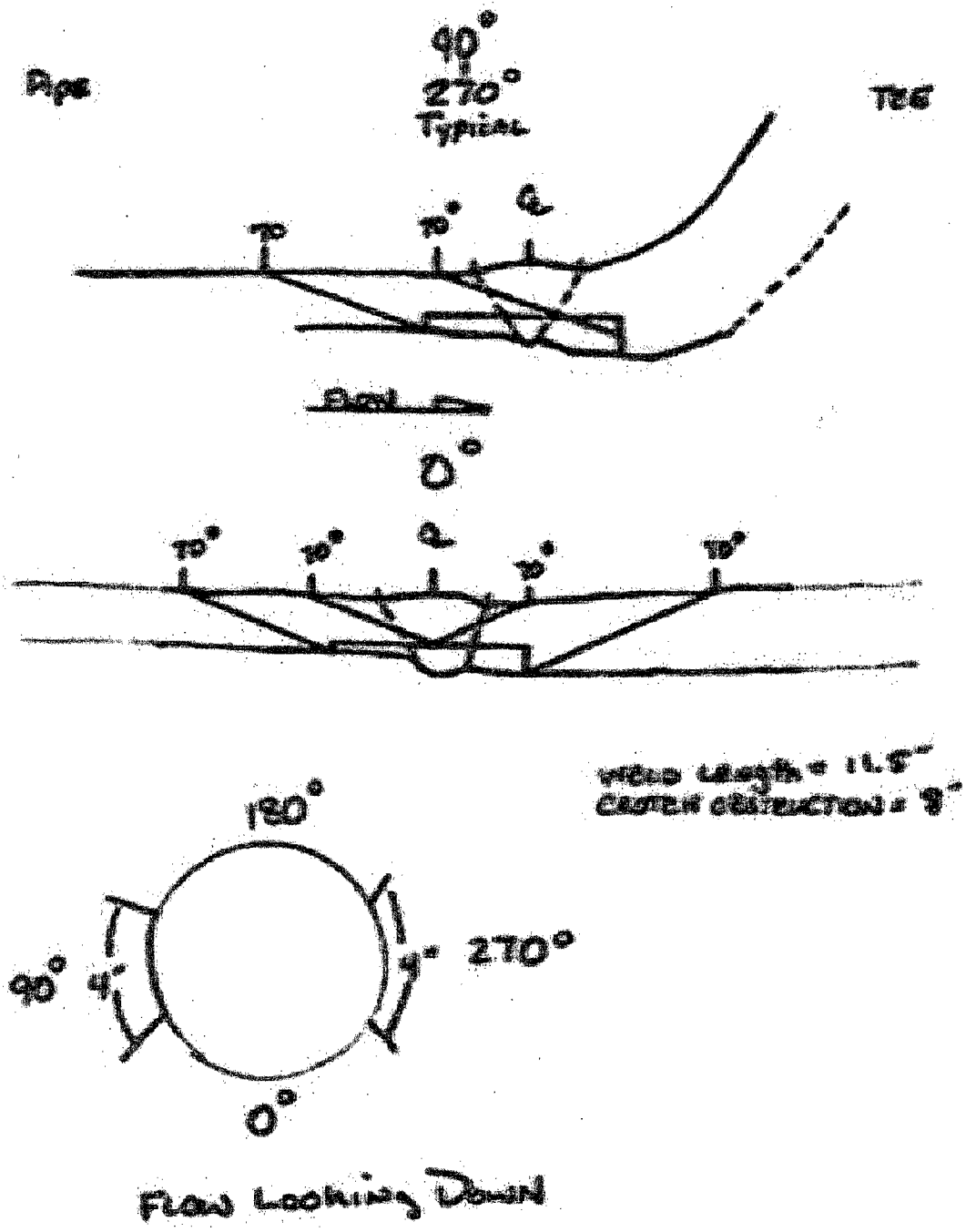
ASME Code, Section XI, Sub-article IWC-2420(a) states, "The sequence of component examinations which was established during the first inspection interval shall be repeated during each successive inspection interval, to the extent practical". The ASME Section XI inspection program for Class 2 is a random sample of welds based on specific criteria that is prorated among all systems containing C-F-1 and C-F-2 welds. Even though the examinations that are subject to this relief request did not obtain full coverage, others did. Because the systems are designed and constructed using similar requirements and materials, the cumulative results of all examinations ensure that general degradation of the affected systems is not occurring. The limited examinations of the welds specific to this request, the VT-2 examination performed during the system leakage test, combined with the examination results of other Class 2 welds provides assurance that quality and safety are being maintained.

7. Duration of Proposed Alternative

Relief is requested for the Fourth Ten-year Interval of the Inservice Inspection Program for Ginna LLC which was effective from 01/01/2000, and ended 12/31/2009.

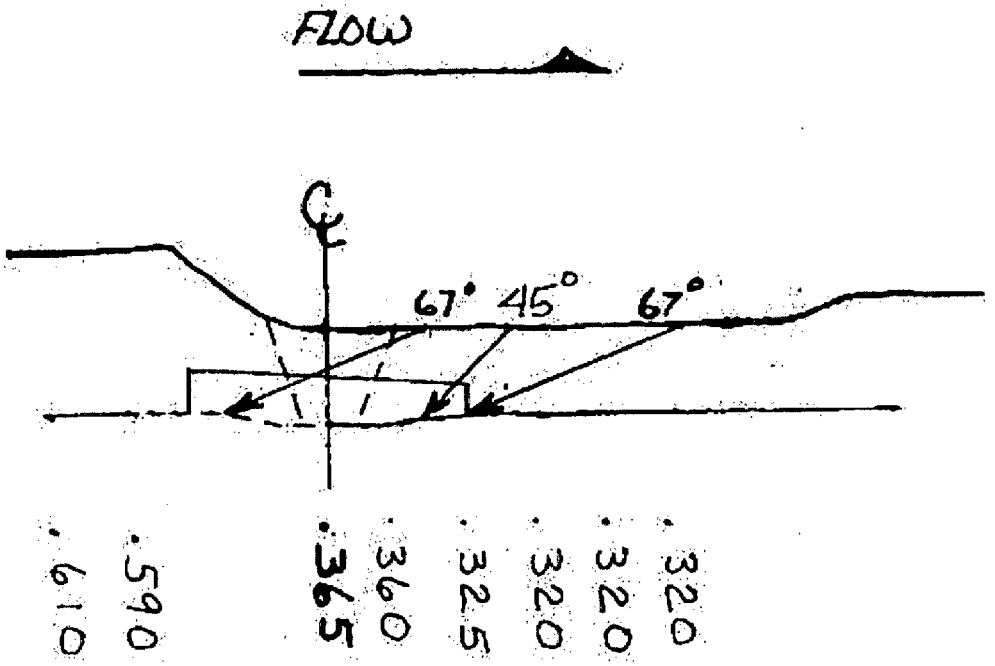
Attachment 1
Weld Cross-Sectional Views

Item C5.21
Component ID: 18 (I162770)
Limitation due to tee curvature.
Wave Modality and Insonification Angle(s): 60° S, and 70° S (Axial and Circ Directions) were used where scanning was accessible.

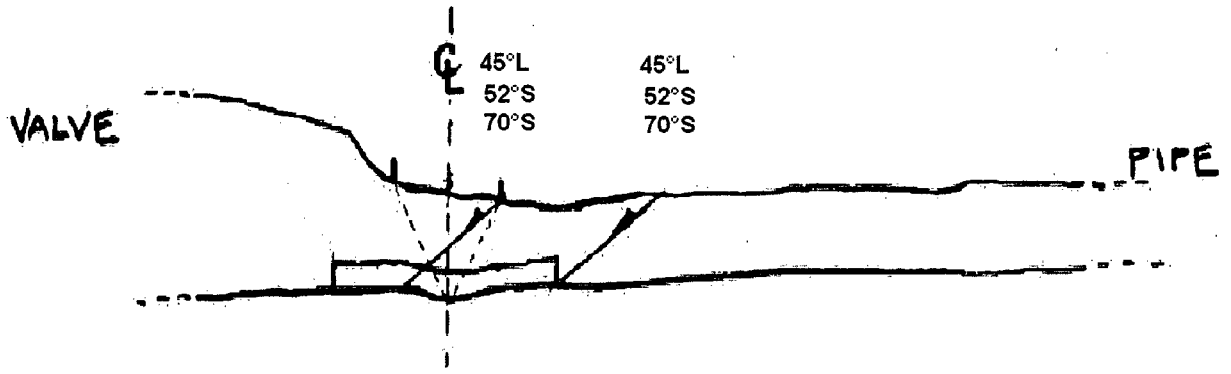


Attachment 1
Weld Cross-Sectional Views

Item C5.21
Component ID: 6 (I163070)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, and 70° S (Axial and Circ Directions) were used where scanning was accessible.

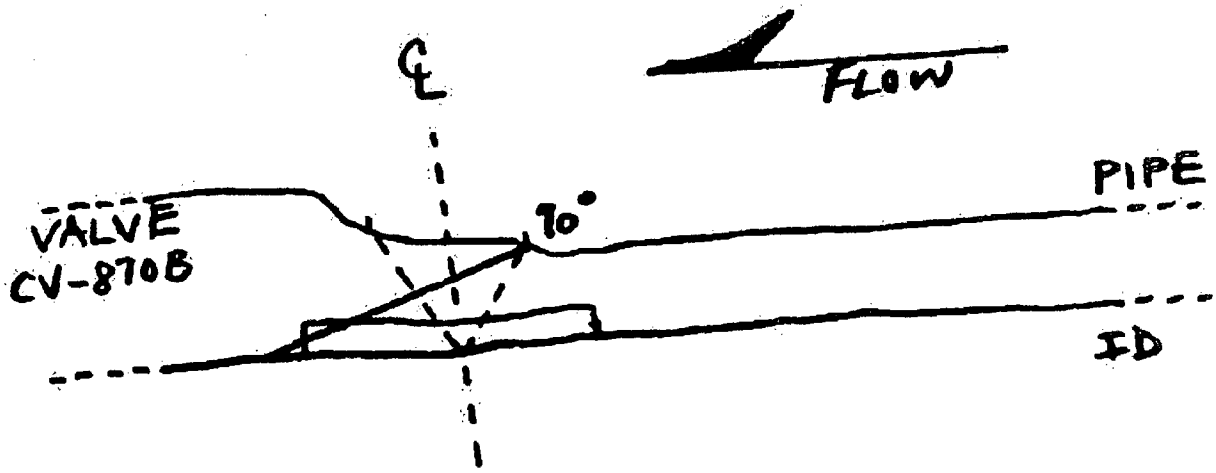


Item C5.21
Component ID: 14 (I163220)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 0°, 45° L, 52° S and 70° S (Axial and Circ Directions) were used where scanning was accessible.

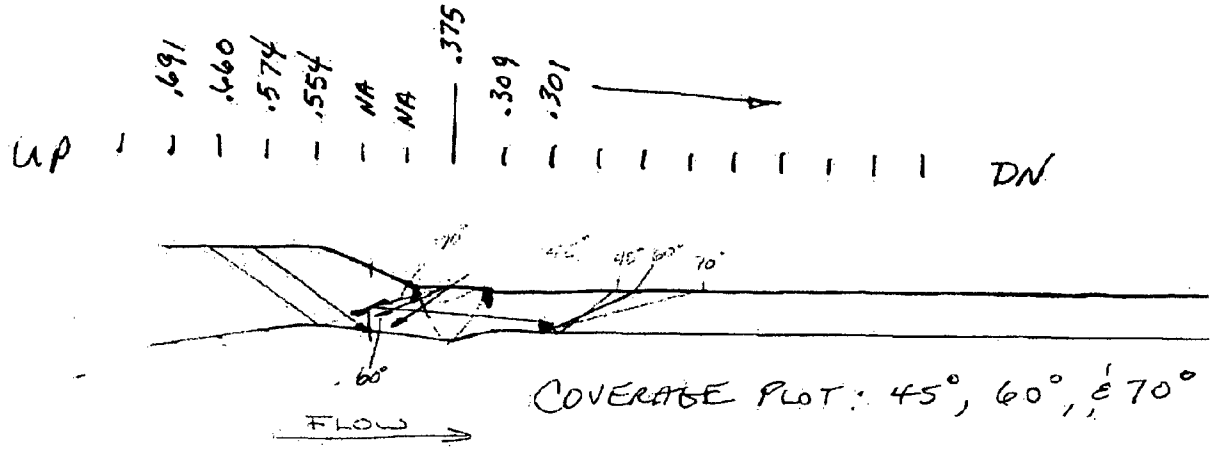


Attachment 1
Weld Cross-Sectional Views

Item C5.21
Component ID: 15 (I163230)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 0°, 45° L, 52° S and 70° S (Axial and Circ Directions) were used where scanning was accessible.

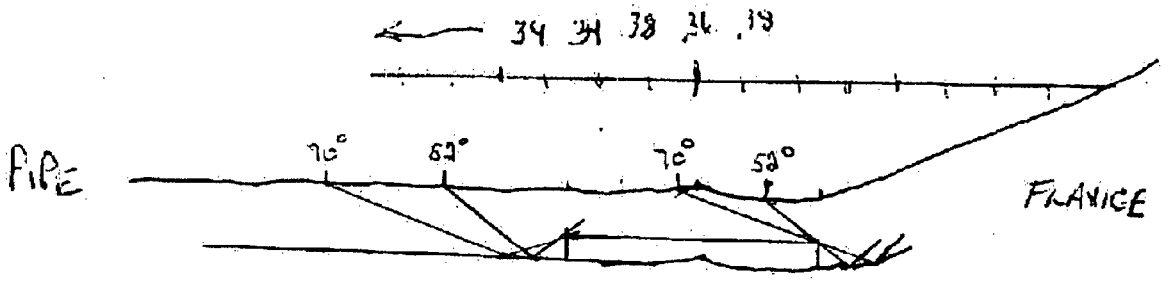


Item C5.21
Component ID: 8 (I163570)
Limitation – one sided exam.
Wave Modality and Insonification Angle(s): 45° S, 60° S and 70° S (Axial and Circ Directions) were used where scanning was accessible.

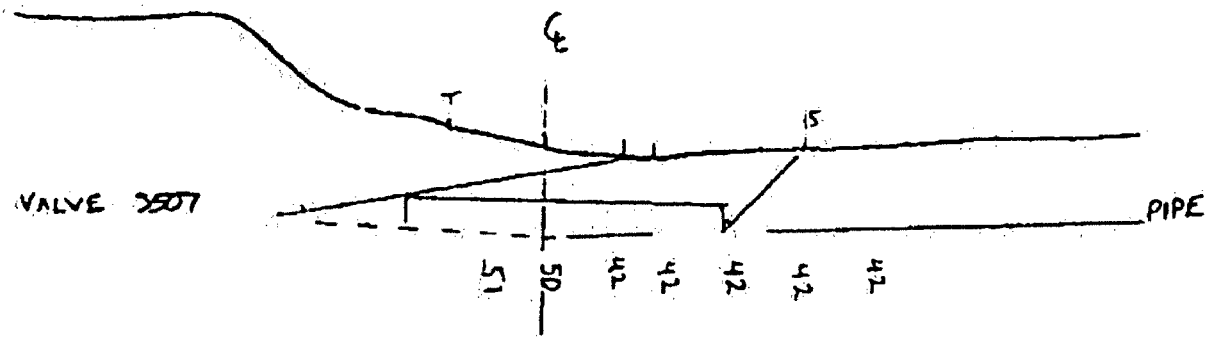


Attachment 1
Weld Cross-Sectional Views

Item C5.21
Component ID: 56 (I164300)
Limitation – scan from flange (25%).
Wave Modality and Insonification Angle(s): 0°, 45° L, 52° S and 70° S (Axial and Circ Directions) were used where scanning was accessible.



Item C5.51
Component ID: G2-BC-2-A (I083900)
Limitation – weld-o-let (15.25" to 17.50"), welded tag (10" to 10.50").
Wave Modality and Insonification Angle(s): 0°, 45° S, and 70° S (Axial and Circ Directions) were used where scanning was accessible.



Attachment 1
Weld Cross-Sectional Views

Item C5.51
Component ID: L2-BC-2-A (I090400)
Limitation – weld-o-let at 270 degrees limitation of 3" in axial direction. Wave Modality and Insonification Angle(s): 0°, 45° S, and 60° S (Axial and Circ Directions) were used where scanning was accessible.