

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

Attachment I

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

NRC Approved (Yes or No): _____ Date: _____ Ref: _____

NOTE:

Salem Unit 1 – Second Ten-Year Interval Inservice Inspection (ISI) inservice inspection examinations were performed between February 27, 1988 (start) and May 19, 2001 (end). During this time Salem Unit 1 was shutdown for an extended period (April 4, 1995 through April 17, 1998 - 36 months and 10 days).

Component Description

Salem Unit 1 NDE exam limitations of Class 1 bolting components and welds located upon pressure vessels and piping systems

ASME Section XI Class:

Class 1

Code Requirement

Salem Unit 1 Second Ten-Year Interval Inservice Inspection (ISI) inservice inspection examinations were performed in accordance with the requirements of ASME Boiler and Pressure Vessel Code Section XI, 1983 Edition up through and including Summer 1983 Addenda Article IWB-2500 to the extent practical. Table IWB-2500-1 defines examination requirements for Class 1 components. The table contains information associated with the identification of components to be examined by nondestructive examination; this includes the applied nondestructive examination (NDE) method, acceptance standard, and extent of exam coverage and exam frequency.

The 1999 Edition of 10CFR50.55a "Codes and Standards" was revised by a Federal Register Notice dated September 22, 1999 (64FR51400) that defined new requirements for coverage and examination demonstrations. These requirements affected both class 1 and 2 bolting, piping system welds, and reactor pressure vessel nondestructive examinations.

ASME, Section XI, 1983 Edition, Summer 1983 Addenda, requires volumetric and/or surface and visual examinations be performed upon components and welds identified within Table IWB-2500-1 Exam Categories B-A, B-B, B-F, B-G-1, B-J, and B-K-1.

A. Exam Category B-A Pressure Retaining Welds in Reactor Vessels

Section XI Exam Category B-A required volumetric weld examinations be performed upon the accessible length of one beltline region circumferential and longitudinal weld (Item Numbers B1.11 and B1.12 respectively); closure

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

head circumferential and meridional welds (Item Numbers B1.21 and B1.22 respectively) and the associated reactor pressure vessel flange welds (Items B1.30 and B1.40).

B. Exam Category B-B Pressure Retaining Welds in Vessels Other Than Reactor Vessels

Section XI Exam Category B-B required volumetric weld examinations be performed essentially 100% of the weld length upon circumferential and 12 inches of intersecting longitudinal pressure retaining welds, as necessary within various pressure vessels. The examinations may be limited to one vessel among the group of vessels performing a similar function.

C. Exam Category B-D Full Penetration Welds of Nozzles in Vessels- Inspection Program B

Section XI Exam Category B-D required volumetric examinations be performed upon all nozzle to vessel welds and nozzle inside radius sections.

D. Exam Categories B-J, and B-F Retaining Piping Welds

Section XI Exam Categories B-J, and B-F required surface and volumetric weld examinations be performed upon welds greater than 4" diameter.

Piping long seams were conducted in accordance with the requirements of ASME Section XI Code Case N-524, *Alternative Examination Requirements for Longitudinal Welds in Class 1 and 2 Piping*.

E. Exam Category B-G-1 Pressure Retaining Bolting, 2 in. And Less In Diameter

Section XI Exam Category B-G-1 required volumetric examinations be performed upon studs greater than 2" diameter.

F. Exam Category B-K Welded Integral Attachments

PSEG Nuclear conducted welded integral attachment weld exams in accordance with the requirements imposed by ASME Section XI Code Case N-509, *Alternative Rules for the Selection and Examination of Class 1,2 and 3 Integrally Welded Attachments*. Category B-K, Integral Attachments for Class 1 Vessels, Piping, and Pumps and Valves require surface examinations be conducted.

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

The attached table contains detailed information related to the explanation of those components demonstrating inadequate code exam coverage extent due to inaccessibility, physical limitation or obstruction.

Basis for Relief:

Pursuant to 10CFR50.55a (g)(5)(iii), relief is requested from ASME XI examination requirements for the performance of the following bolting, piping and vessel welds due to exam limitations. The table herein identifies those 2nd Ten-Year Interval ISI inservice inspection nondestructive examinations, contained within the Salem Unit 1 ISI Program Long Term Plan, whose NDE exams were found to be inaccessible, physically limited or partially obstructed and therefore incapable of fully meeting code coverage requirements for examination extent. These components are identified within the attached table and supplemented by additional descriptive details (sketches, illustrations, and/or drawings) enclosed within Appendix A.

Subject components contained herein have received inservice inspection NDE examinations to the "extent practical" within the limitations of design, geometry and materials of construction of the components as allowed by Code. These components have also undergone necessary volumetric examination by radiography and/or surface examinations during fabrication, in accordance with approved construction/fabrication code requirements providing adequate assurance for the structural integrity of the components prior to plant operation. In addition, these components have been subjected to a visual examination for leakage after completion of each refueling outage.

PSEG Nuclear utilizes approved technical procedures written in accordance to applicable ASME Code section/paragraph criterion for area/volume requirements. Plant procedures require the documentation of the location and cause of the limitation.

A. Exam Category B-A Pressure Retaining Welds in Reactor Vessels

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the identified subject components since the Reactor Pressure Vessel (RPV) would require design modifications that would impose a significant burden to PSEG Nuclear. PSEG Nuclear has elected to examine the subject components to the extent practical and has determined them to be acceptable with no observed signs of degradation. In addition, other RPV welds have been examined to the extent required by the Code and also found to be acceptable with no

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

observed signs of degradation. Also, VT-2 visual examinations performed in conjunction with system pressure testing after each refueling outage found these welds to be acceptable with no leakage observed.

B. Exam Category B-B Pressure Retaining Welds in Vessels Other Than Reactor Vessels

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the subject components since these vessels would require design modifications that would impose a significant burden to PSEG Nuclear. PSEG Nuclear has examined these component welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other similar vessel welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. Also, VT-2 visual examinations performed in conjunction with system pressure testing after each refueling outage found these welds to be acceptable with no leakage observed.

C. Exam Category B-D Full Penetration Welds of Nozzles in Vessels- Inspection Program B

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the subject components since the nozzle identified within the table would require design modifications that would impose a significant burden to PSEG Nuclear. PSEG Nuclear has examined these component welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other similar vessel welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. Also, VT-2 visual examinations performed in conjunction with system pressure testing after each refueling outage found these welds to be acceptable with no leakage observed.

D. Exam Category B-J and B-F Retaining Piping Welds

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

Required Code coverage is impractical for the subject welds since the piping system would require design modifications that would impose a significant burden to PSEG Nuclear. PSEG Nuclear has examined these welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other similar piping welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. Also, VT-2 visual examinations performed in conjunction with system pressure testing after each refueling outage found these welds to be acceptable with no leakage observed.

Code required volumetric examinations are conducted by ultrasonic examination from both the upstream and downstream directions of piping welds. Ultrasonic examination of certain terminal ends and structural discontinuities are considered to be impractical due to their configuration and material acoustic properties.

The EPRI Performance Demonstration Initiative (PDI) is in agreement with the NRC's September 22, 1999 Final Rule regarding single side access for piping. The Final Rule requires if access is available, austenitic steel welds shall be scanned in each of the four directions (parallel and perpendicular to the weld) where required. PDI has not been able to qualify a single side examination procedure technique that is capable of demonstrating equivalency for a two-sided examination procedure technique on austenitic piping welds. Current technology is not capable of reliably detecting or sizing flaws on the far side of an austenitic weld for configurations common to nuclear applications. Ultrasonic examination of ferritic steel welds requires scanning in the two axial scan directions. Circumferential scanning is required in the remaining two directions only when axial indications were noted during preservice inspections. Coverage credit may be taken for single side exams on ferritic piping. However, for austenitic piping, a procedure must be qualified with flaws on the inaccessible side of the weld.

As stated earlier, current technology is not capable of reliably detecting or sizing flaws on the far side of austenitic weld for configurations common to US nuclear applications. To demonstrate that the best available technology was applied, PDI provides a best effort qualification instead of a complete single sided qualification. PDI Performance Demonstration Qualification Summary (PDQS) austenitic piping certificates list the limitation that single side examination is performed on a best effort basis. When performing single side access of austenitic stainless steel piping welds the best available techniques are used from the accessible side of the weld, as qualified through the PDI.

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

When the examination area is limited to one side of an austenitic weld, examination coverage does not comply with 10CFR50.55a(b)(2)(xv)(A) or the ASME Section XI requirements and proficiency demonstrations do not comply with 10CFR50.55a(b)(2)(xvi) and full coverage credit may not be claimed. PSEG Nuclear considers exams accessed from a single side of an austenitic piping welds to be fully examined to the extent practical.

E. Exam Category B-G-1 Pressure Retaining Bolting, \geq 2 in. In Diameter

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the subject components since access to some bolting is obstructed. This would require design modifications and would impose a significant burden to PSEG Nuclear. PSEG Nuclear has examined several of these components contained within the same location and determined them to be acceptable with no observed signs of degradation. Also, similar bolting located on other pumps has been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. In addition, a VT-2 visual examination is performed upon each stud in conjunction with the system pressure testing after each refueling outage. This bolting has been found to be acceptable with no leakage observed. Further, a visual examination is conducted of each installed stud to ensure no physical damage that may have resulted from the presence of boric acid and has been found to be acceptable with no damage observed.

F. Exam Category B-K Welded Integral Attachments

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the subject welds since the integral attachment would require design modifications and would impose a significant burden to PSEG Nuclear. In addition, removal of the component support attached to pump would result in the need to redesign the system's configuration in order to achieve access to the area obstructed. PSEG Nuclear has examined these welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other similar vessel welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. In addition, VT-2 visual examinations performed in conjunction with system

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

pressure testing after each refueling outage found these welds to be acceptable with no leakage observed.

Alternative Examination

For the 3rd Ten-Year ISI Interval, inservice inspection examinations will be performed in accordance with the Final Rule requirements and ASME Section XI 1995 Edition up through and including 1996 Addenda Article IWB-2500 and NRC approved RI-ISI requirements to the extent practical.

PSEG Nuclear proposes to perform NDE examinations upon the components identified in the exam categories below using the current state of the art techniques as demonstrated through the EPRI PDI Program to the extent practical.

A. Exam Category B-A Pressure Retaining Welds in Reactor Vessels

Where the component will not allow an ultrasonic angle beam examination from both sides of the weld, the following will be performed using the best available technology as demonstrated through the EPRI PDI program:

- Similar metal welds, will be examined to the extent practical using personnel and techniques qualified and demonstrated through the EPRI PDI, as necessary.
- System pressure test examinations will be performed per ASME XI requirements

B. Exam Category B-B Pressure Retaining Welds in Vessels Other Than Reactor Vessels

Where the component will not allow an ultrasonic angle beam examination from both sides of the weld, the following will be performed using the best available technology as demonstrated through the EPRI PDI program:

- Similar metal welds, will be examined to the extent practical using personnel and techniques qualified and demonstrated through the EPRI PDI, as necessary.
- System pressure test examinations will be performed per ASME XI requirements

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

**C. Exam Category B-D Full Penetration Welds of Nozzles in Vessels-
Inspection Program B**

Where the component will not allow an ultrasonic angle beam examination from both sides of the weld or upon the nozzle inner radius section, the following will be performed using the best available technology as demonstrated through the EPRI PDI program:

- Similar metal welds and inner radius sections will be examined to the extent practical using personnel and techniques qualified and demonstrated through the EPRI PDI, as necessary.
- System pressure test examinations will be performed per ASME XI requirements

D. Exam Category B-J, and B-F Retaining Piping Welds

Where the component will not allow an ultrasonic angle beam examination for axial scans (upstream and downstream), the following will be performed using the best available technology as demonstrated through the EPRI PDI program:

- Similar metal welds will be examined in at least one axial direction and two circumferential scans adjacent to the weld and upon the weld using personnel and techniques qualified and demonstrated through the EPRI PDI program for single sided access relating to the material type to be examined.
- Austenitic-to-Inconel dissimilar metal welds will be examined in at least one axial direction and two circumferential scans adjacent to the weld and upon the weld using personnel and techniques qualified and demonstrated through the EPRI PDI program for single sided access relating to the material type to be examined
- The code required surface and system pressure test examinations will be performed per ASME XI requirements.
- PSEG Nuclear is currently preparing its submittal for a Risk Informed Inservice Inspection (RI-ISI) Program in accordance with NRCs EPRI approved methodology for both Salem Units class 1 and 2 systems for NRC approval. During the conduct of RI-ISI program preparation, PSEG Nuclear will consider the non-selection of those components that have been deemed inaccessible, physically limited or partially obstructed portions provided the NRCs approved RI-ISI EPRI methodology allows.

Relief Request: S1-RR-B01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

E. Exam Category B-G-1 Pressure Retaining Bolting, 2 in. And Less In Diameter

NDE personnel will utilize the single side access straight beam ultrasonic exam technique having been satisfactory demonstrated at the PDI. PSEG Nuclear has since elected to perform straight beam (0- degree) examinations from the accessible surface of the studs using PDI qualified individuals to perform these exams. PSEG Nuclear did not re-perform previous exams (for the 11 and 12 Reactor Coolant Pump studs) using the current state of the art technique that would have resulted in 100% code coverage being achieved. These exams are scheduled for November 2005 during RFO17. Straight beam UT examinations were conducted upon the 13 and 14 Reactor Coolant Pump studs using this technique and determined to be satisfactory.

Surface and system pressure test examinations will be performed per ASME XI requirements

F. Exam Category B-K Welded Integral Attachments

These examinations will be performed in accordance with the requirements of ASME Section XI 1995 Edition up through and including 1996 Addenda Article IWB-2500.

Applicability

This Relief Request is applicable to the following:

- Salem Unit 1 – Second Ten-Year Inservice Inspection Interval

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

Summary No.	Interval/Period/Outage No.	Outage Name 1RXX	Exam Date	System	Component Identification	Geometric Configuration	ASME Category	Item No.	Sketch No.	Exam Method Limited	Completed Exam Amount	Code Required Volume	Exam and Limitation Description	Augmented Exam
000900	2-3-2	14	5/14/01	RPV	1-RPV-1042B	Upper Long Seam @ 7 degrees	B-A	B1.12	19 & 1	UT	66%	IWB-2500-3	This UT exam was performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) transducers were used. The UT exam was limited due to the outlet nozzle being located immediately adjacent to the long seam. The location of the outlet nozzle's boss prevented scanning in the areas adjacent to the weld and contributed to the examination being limited. Recordable indications were noted. The total estimated coverage achieved was 66%. Evaluation of the indications were determined to be acceptable IAW with ASME XI IWB-3000. VT-3 exams of the vessel's internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, or loss of structural integrity.	No
001200	2-3-2	14	5/14/01	RPV	1-RPV-10042	Lower Shell to Bottom Head (Circ Weld)	B-A	B1.11	19 & 1	UT	56%	IWB-2500-1	This UT exam was performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45 and 70-degree Refracted Longitudinal (RL) transducers were used. The UT exam was limited due to the six (6) core guide lugs being integrally attached to the vessel wall and interfering with scan access. The UT exam was performed with recordable indications noted and evaluated to be acceptable per the requirements of ASME XI IWB-3000. The total estimated coverage achieved was 56%. VT-3 exams of the vessels internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area.	No
001300	2-3-2	14	5/14/01	RPV	1-RPV-4043	Lower Head Disc to Peel Segments	B-A	B1.21	19 & 1	UT	14%	IWB-2500-3	This UT exam was performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) transducers were used. The UT exam was limited due to the incore instrument penetrations that are located within the lower head (reference attached sketch) interfering with scan access. The total estimated coverage achieved was 14%. The UT exam was performed with no recordable indications noted. VT-3 of the vessels internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

004400	2-3-2	14	4/23/01	RPV	1-RPV-6046B	Dollar Plate Closure Weld	B-A	B1.21	1	UT	40% [Note: Due to personnel exposure concerns coverage was estimated.]	IWB-2500-3	This UT exam was performed in April 2001 using approved PDI exam techniques. A 60-degree Refracted Longitudinal (RL) UT Exam was performed with no recordable indications noted. The head's shroud was raised to achieve maximum access to the weld. The examination was performed above and below the weld axially and circumferentially in the accessible areas between the CRD penetrations. Due to the dose rates on the head being in excess of 1R/hr, precise measurement of the weld length examined was not possible. Therefore, only an estimation of the coverage was provided. The total estimated code coverage achieved was 40%. There have been no problems identified to date associated with Salem Unit 2 reactor pressure vessel closure head. A VT2 examination for the detection of boric acid deposits during 1R14 (May 2001) did not identify any signs of leakage or loss of structural integrity within this area. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
001400	2-3-2	14	5/14/01	RPV	1-RPV-1043-A	Meridional Weld @ 270 degrees in Lower Head	B-A	B1.22	19 & 1	UT	59%	IWB-2500-3	These UT exams were performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) were used. The lower head meridional weld exam was restricted due to the inaccessibility caused by the lower heads in core instrument penetrations which interfered with scanning access. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 31.5" of weld length was examined full volume. The total estimated coverage achieved was 59%. The exam were performed with no recordable indications noted. VT-3 of the vessels internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

001500	2-3-2	14	5/14/01	RPV	1-RPV-1043-B	Meridional Weld @ 330 degrees in Lower Head	B-A	B1.22	19 & 1	UT	59%	IWB-2500-3	These UT exams were performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) were used. The lower head meridional exam was restricted due to the accessibility issues associated with the lower head in core instrument penetrations. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 31.5" of weld length was examined full volume. The total estimated coverage achieved was 59%. The exam were performed with no recordable indications noted. VT-3 of vessel internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage.	No
001600	2-3-2	14	5/14/01	RPV	1-RPV-1043-C	Meridional Weld @ 30 degrees in Lower Head	B-A	B1.22	19 & 1	UT	59%	IWB-2500-3	These UT exams were performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) were used. The lower head meridional exam was restricted due to the accessibility issues associated with the lower head in core instrument penetrations. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 31.5" of weld length was examined full volume. The total estimated coverage achieved was 59%. The exam were performed with no recordable indications noted. VT-3 of vessel internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

001700	2-3-2	14	5/14/01	RPV	1-RPV-1043-D	Meridional Weld @ 90 degrees in Lower Head	B-A	B1.22	19 & 1	UT	59%	IWB-2500-3	These UT exams were performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) were used. The lower head meridional exam was restricted due to the accessibility issues associated with the lower head in core instrument penetrations. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 31.5" of weld length was examined full volume. The total estimated coverage achieved was 59%. The exam were performed with no recordable indications noted. VT-3 of vessel internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage.	No
001800	2-3-2	14	5/14/01	RPV	1-RPV-1043-E	Meridional Weld @ 150 degrees in Lower Head	B-A	B1.22	19 & 1	UT	59%	IWB-2500-3	These UT exams were performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) were used. The lower head meridional exam was restricted due to the accessibility issues associated with the lower head in core instrument penetrations. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 31.5" of weld length was examined full volume. The total estimated coverage achieved was 59%. The exam were performed with no recordable indications noted. VT-3 of vessel internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

001900	2-3-2	14	5/14/01	RPV	1-RPV-1043-F	Meridional Weld @ 210 degrees in Lower Head	B-A	B1.22	19 & 1	UT	59%	IWB-2500-3	These UT exams were performed in May 2001 using approved PDI exam techniques. 45-degree shear and 45- and 70-degree Refracted Longitudinal (RL) were used. The lower head meridional exam was restricted due to the accessibility issues associated with the lower head in core instrument penetrations. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 31.5" of weld length was examined full volume. The total estimated coverage achieved was 59%. The exam were performed with no recordable indications noted. VT-3 of vessel internals and external VT-2 exams conducted during 1R14 (May 2001) did not identify any signs of leakage, loss of structural integrity within this area. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage.	No
004500	2-3-2	14	4/20/01	RPV	1-RPV-1046A	Closure Head Meridional Weld @ 300 degrees	B-A	B1.22	1	UT	83%	IWB-2500-3	These UT exams were performed in April 2001 using approved PDI exam techniques. A 60-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. The head's shroud was raised to achieve maximum access to the weld. The exam was partially restricted due to the closure head's transition area where the flange weld transitions to the head peel segment. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length not covered by the shroud. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 44.5" of weld length was examined full volume. The total estimated coverage achieved was 83%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

004600	2-3-2	14	4/21/01	RPV	1-RPV-1046B	Closure Head Meridional Weld @ 0 degrees	B-A	B1.22	1	UT	68%	IWB-2500-3	These UT exams were performed in April 2001 using approved PDI exam techniques. A 60-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. The head's shroud was raised to achieve maximum access to the weld. The exam was partially restricted due to the closure head's transition area where the flange weld transitions to the head peel segment. In addition, the examination was limited 3-5/8" to 9-5/8" (6") due to presence of lifting lugs attached to the closure head located at 0, 120 and 240 degrees. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 27" of weld length was examined full volume. The total estimated coverage achieved was 68%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
004700	2-3-2	14	4/20/01	RPV	1-RPV-1046C	Closure Head Meridional Weld @ 60 degrees	B-A	B1.22	1	UT	83%	IWB-2500-3	These UT exams were performed in April 2001 using approved PDI exam techniques. A 60-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. The head's shroud was raised to achieve maximum access to the weld. The exam was partially restricted due to the closure head's transition area where the flange weld transitions to the head peel segment. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length not covered by the shroud. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 44.5" of weld length was examined full volume. The total estimated coverage achieved was 83%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

004800	2-3-2	14	4/20/01	RPV	1-RPV-1046D	Closure Head Meridional Weld @ 120 degrees	B-A	B1.22	1	UT	68%	IWB-2500-3	These UT exams were performed in April 2001 using approved PDI exam techniques. A 60-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. The head's shroud was raised to achieve maximum access to the weld. The exam was partially restricted due to the closure head's transition area where the flange weld transitions to the head peel segment. In addition, the examination was limited 3-5/8" to 9-5/8" (6") due to presence of lifting lugs attached to the closure head located at 0, 120 and 240 degrees. The total estimated weld length equals 53.5'. The thickness is approximately 7.0". Approximately 27' of weld length was examined full volume. The total estimated coverage achieved was 68%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
004900	2-3-2	14	4/20/01	RPV	1-RPV-1046E	Closure Head Meridional Weld @ 180 degrees	B-A	B1.22	1	UT	83%	IWB-2500-3	These UT exams were performed in April 2001 using approved PDI exam techniques. A 60-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. The head's shroud was raised to achieve maximum access to the weld. The exam was partially restricted due to the closure head's transition area where the flange weld transitions to the head peel segment. The examination was conducted from both sides of the weld in the axial and circumferential directions for the entire accessible length not covered by the shroud. The total estimated weld length equals 53.5'. The thickness is approximately 7.0". Approximately 44.5' of weld length was examined full volume. The total estimated coverage achieved was 83%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

005000	2-3-2	14	4/20/01	RPV	1-RPV-1046F	Closure Head Meridional Weld @ 240 degree	B-A	B1.22	1	UT	68%	IWB-2500-3	These UT exams were performed in April 2001 using approved PDI exam techniques. A 60-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. The head's shroud was raised to achieve maximum access to the weld. The exam was partially restricted due to the closure head's transition area where the flange weld transitions to the head peel segment. In addition, the examination was limited 3-5/8" to 9-5/8" (6") due to presence of lifting lugs attached to the closure head located at 0, 120 and 240 degrees. The total estimated weld length equals 53.5". The thickness is approximately 7.0". Approximately 27" of weld length was examined full volume. The total estimated coverage achieved was 68%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
006850	2-2-1	10	5/18/92	PZR	1-PZR-21	Upper Head to Shell J	B-B	B2.10	3	UT	88%	IWB-2500-1	These UT exams were performed in May 1992. The following transducers: 0, 45, 60-degree shear wave were used to conduct UT examination. There were no recordable indications noted. The exam was limited due to the presence of 4 welded pads, and insulation. This area of the pressurizer cubicle is high radiation area and highly congested. Removal of remaining insulation required the removal additional panels and insulation support rings in order to grant additional needed access. No exams were able to be performed from the head side between 289"- 1.0", and 144"- 146" (available scan area 3"-5" above weld). No exams were performed from the shellside between 289"- 1.0", and 144" - 146" (available scan area 2.5" - 4.5" above weld). In addition no exams were able to be performed between 65.25" - 87.25" and 98.5" -120", 169.5" - 222" due to the presence of insulation. The thickness is approximately 5.0". Approximately 5" of weld length was examined full volume. The total estimated coverage achieved was 88%. Examined 100% of the PZR weld in at least one direction with 75% of the weld being examined in 2 directions as required by Code. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

006325	2-3-2	14	4/24/01	PZR	1-PZR-20	Longitudinal Weld Shell J	B-B	B2.11	3	UT	42%	IWB-2500-2	<p>These UT exams were performed in April 2001 using PDI approved techniques. The following transducers: 0, 45, 60-degree shear wave were used to conduct UT examination. There were no recordable indications noted. The exam was limited due to the presence of two 3½" (7" total) insulation support rings (belly band) located over the top of the weld. The removal of the insulation rings (belly band) would require extensive removal of the adjoining insulation attached to the ring so that the ring could be removed/replaced; erection/removal of additional scaffolding would be needed, this would result in an increase in overall personnel exposure. There have been no previous indications or problems noted associated with this or other similar pressurizer welds.</p> <p>System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No
007901	2-3-2	14	4/19/01	13-STG	13-STG-11	Lower Head to Tube Sheet	B-B	B2.40	4	UT	70%	IWB-2500-6	<p>These UT exams were performed in April 2001 using PDI approved techniques. The following transducers: 0, 45, 60-degree shear wave were used to conduct UT examinations. There were no recordable indications noted. The exam was limited due to the presence of four lower vertical steam generator vessel supports, a code data plate welded to the vessel, outer blend radius of the channelhead and the actual tubesheet configuration that caused a scanning interference. There have been no problems noted associated with this or other similar welds. The examination was performed from both sides of the weld axially and circumferentially for the entire accessible length where accessible. No examination could be performed at the following approximate locations due steam generator supports: 34" – 58½", 140" – 166½", 247" – 271" and 355" – 378". In addition, no exam was performed on the channelhead side from 70½" – 78½" for a 3½" distance from the weld due to a code plate welded to the vessel.</p> <p>In addition, the examination conducted from the tubesheet side was limited to 9¼" from the weld centerline due to the tube sheet's OD configuration. The examination was performed from both sides of the weld axially and circumferentially for the entire accessible length where accessible. The total weld length requiring examination was 426¼". The thickness is approximately 5½". Approximately 314" of weld length was examined full volume. The total estimated coverage was 70%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

008801	2-2-3	12	2/20/97	14-STG	14-STG-11	Lower Head to Tube Sheet	B-B	B2.40	4	UT	75%	IWB-2500-6	<p>These UT exams were performed in February 1997. The following transducers: 0, 45, 60-degree shear wave and SLIC 20 and 40 transducers were used to conduct UT examinations. Recordable indications were noted with the 60-degree shear wave transducer and evaluated to be acceptable with the SLIC 20 and 40 transducers. The exam was limited due to the presence of four lower vertical steam generator vessel supports, a code data plate welded to the vessel, outer blend radius of the channelhead and the actual tubesheet configuration that caused a scanning interference. Indications were noted and evaluated to be acceptable based upon ASME XI code requirements (1983 Ed. With Addenda through Summer 1983). Indications possessed no measurable through-wall dimension. There have been no problems noted associated with this or other similar welds. The examination was performed from both sides of the weld axially and circumferentially for the entire accessible length where accessible.</p> <p>No examination was able to be performed at the following locations due steam generator supports: 34" - 58 1/2", 140" - 166 1/2", 247" - 271" and 355" - 378". In addition, no exam was performed on the channelhead side from 70 1/2" - 78 1/2" for a 3 1/2" distance from the weld due to a code plate welded to the vessel. In addition, the examination conducted from the tubesheet side was limited to 9 1/4" from the weld centerline due to the tube sheet's OD configuration. The total weld length requiring examination was 426 3/4". The thickness is approximately 5 1/2". Approximately 329 1/4" of weld length was examined full volume. The total estimated coverage was 75%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No
--------	-------	----	---------	--------	-----------	--------------------------	-----	-------	---	----	-----	------------	---	----

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

009701	2-2-3	12	2/20/97	12-STG	12-STG-11	Lower Head to Tube Sheet	B-B	B2.40	4	UT	78%	IWB-2500-6	<p>These UT exams were performed in February 1997. The following transducers: 0, 45, 60-degree shear wave transducers were used to conduct UT examinations. No recordable indications were noted. The exam was limited due to the presence of four lower vertical steam generator vessel supports, a code data plate welded to the vessel, outer blend radius of the channelhead and the actual tubesheet configuration that caused a scanning interference. There have been no problems noted or associated with this or other similar welds. The examination was performed from both sides of the weld axially and circumferentially for the entire accessible length where accessible. No examination could be performed at the following locations due steam generator supports: 48" - 72", 156" - 180", 264" - 288" and 370" - 394".</p> <p>In addition, no exam was performed on the channelhead side from 193" - 201" for a 4" distance from the weld due to a code plate welded to the vessel. In addition, the examination conducted from the tubesheet side was limited to 9" from the weld centerline due to the tube sheet's OD configuration. The total weld length requiring examination was 426½". The thickness is approximately 5.5". Approximately 330½" of weld length was examined full volume. The total estimated coverage was 78%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No
010601	2-2-3	12	2/20/97	11-STG	11-STG-11	Lower Head to Tube Sheet	B-B	B2.40	4	UT	77%	IWB-2500-6	<p>These UT exams were performed in February 1997. The following transducers: 0, 45, 60-degree shear wave were used to conduct UT examination. No recordable indications were noted. The exam was limited due to the presence of four lower vertical steam generator vessel supports, a code data plate welded to the vessel, outer blend radius of the channelhead and the actual tubesheet configuration that caused a scanning interference. There have been no problems noted associated with this or other similar welds. The examination was performed from both sides of the weld axially and circumferentially for the entire accessible length where accessible. No examination could be performed at the following locations due steam generator supports: 31" - 55", 138" - 162", 245" - 268" and 352" - 375". In addition, no exam was performed on the channelhead side from 66" - 73" for a 4" distance from the weld due to a code plate welded to the vessel. In addition, the examination conducted from the tubesheet side was limited to 9" from the weld centerline due to the tube sheet's OD configuration.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

													The total weld length requiring examination was 427½". The thickness is approximately 5.5". Approximately 333½" of weld length was examined full volume. The total estimated coverage was 77%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	
007400	2-1-2	09	2/21/91	PS	4-PSN-1131-IRS	Pressurizer Spray Nozzle Inside Radius	B-D	B3.120	19 & 1	UT	78%	IWB-2500-7(b)	These UT exams were performed in February 1991. A 53-degree shear wave transducer was used to conduct UT examinations. There were no recordable indications noted. The exam was limited due to the presence of a code identification plate physically attached to the head of the PZR vessel. The identification plate is located between 59" - 7" clockwise where the plated caused a scanning interference. There have been no problems noted associated with this or other similar welds. The examination was performed from the blend radius. This configuration has been modeled for the use of 53 degrees. The total weld length requiring examination was 66.5". The thickness is approximately 5½". The total estimated coverage was 78%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
023400	2-3-2	14	4/21/01	PR	6-PR-1104-1	Nozzle to Safe-End	B-F	B5.40	5	PT UT	100% 34%	IWB-2500-8	These exams were performed in April 2001. A PT and 30-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. A 30-degree angle was used to compensate for the small bore piping diameter while ensuring the beam reached the ID of the pipe. No examinations were performed from the upstream side of the weld due to the nozzle configuration. In addition, no examinations were performed from the downstream side of the weld due to the safe-end configuration. Exams were conducted on the weld only and in the clockwise and counter clockwise directions. The total estimated weld length equals 24½". The thickness is approximately 1.2". The total estimated code coverage achieved was 34% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

024600	2-3-2	14	4/21/01	PR	6-PR-1103-1	Nozzle to Safe-End	B-F	B5.40	6 & 3	PT UT	100% 38%	IWB-2500-8	These exams were performed in April 2001. A PT and 30-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. A 30-degree angle was used to compensate for the small bore piping diameter while ensuring the beam reached the ID of the pipe. No examinations were performed from the upstream side of the weld due to the nozzle configuration. In addition, no examinations were performed from the downstream side of the weld due to the safe-end configuration. Exams were conducted on the weld only and in the clockwise and counter clockwise directions. The total estimated weld length equals 24½". The thickness is approximately 1.2". The total estimated code coverage achieved was 38% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
025900	2-3-2	14	4/21/01	PR	4-PR-1100-1	Nozzle to Safe-End	B-F	B5.40	27	PT UT	100% 34%	IWB-2500-8	These exams were performed in April 2001. A PT and 30-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. A 30-degree angle was used to compensate for the small bore piping diameter while ensuring the beam reached the ID of the pipe. No examinations were performed from the upstream side of the weld due to the nozzle configuration. In addition, no examinations were performed from the downstream side of the weld due to the safe-end configuration. Exams were conducted on the weld only and in the clockwise and counter clockwise directions. The total estimated weld length equals 15½". The thickness is approximately 0.625". The total estimated code coverage achieved was 34% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

033500	2-3-2	14	4/21/01	PS	4-PS-1131-29	Safe-End to Nozzle	B-F	B5.40	7 & 3	PT UT	100% 34%	IWB-2500-8	These exams were performed in April 2001. A PT and 30-degree Refracted Longitudinal (RL) UT exam was performed with no recordable indications noted. A 30-degree angle was used to compensate for the small bore piping diameter while ensuring the beam reached the ID of the pipe. No examinations were performed from the downstream side of the weld due to the nozzle configuration. In addition, no examinations were performed from the upstream side of the weld due to the safe-end configuration. Exams were conducted on the weld only and in the clockwise and counter clockwise directions. The total estimated weld length equals 15½'. The thickness is approximately 0.75". The total estimated code coverage achieved was 34% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
039200	2-3-1	13	10/18/99	RC	31-RC-1130-2R1	Nozzle to Elbow	B-F	B5.70	8 & 4	PT UT	100% 25%	IWB-2500-8	These exams were performed in October 1999. A PT and 45-degree Dual Transducer Refracted Longitudinal (RL) UT exam was performed to enhance examination beam penetration. There were no recordable indications noted. The exam is performed from the exterior surface of the pipe. Salem's Reactor Coolant system's piping elbows consist of cast stainless steel (A-352, GR CF8M) connected to Steam Generator short radius nozzles (reference sketch 8). It is an industry known phenomena that cast stainless steel does not allow for optimum inspection due to the material's coarse grain structure that attenuates sound. Examinations of other similar welds located on these lines have not identified any signs of leakage or loss of structural integrity or discontinuities. No axial UT examinations were performed from the upstream side of the weld due to the nozzle configuration or from the downstream side due to the elbow being cast stainless. Exams were conducted on the weld and nozzle side only in the clockwise and counter clockwise directions. The total estimated weld length equals 83½" (31") and 76.4" (29") respectively.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

													<p>The thickness is approximately 2.312". The total estimated code coverage achieved was 25% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI. In response to industry events (V.C. Summer) regarding the presence of through wall leakage of reactor coolant piping, PSEG Nuclear conducted various NDE exams during the 10-year outage (April 2001). These exams included a visual examination upon the ID surface of the eight-reactor pressure vessel nozzle to safe-end and safe-end to pipe welds located on the reactor coolant piping lines. No indications were noted. In addition, remotely operated ultrasonic examinations were conducted upon these same welds from the ID using 50- and 70-degree refracted longitudinal wave transducers.</p> <p>Again, no indications were noted. In addition, surface (PT) examinations were conducted of these same welds from the OD after removal of the sandbox covers to support access. Again, no indications were noted.</p>	
050210	2-3-1	13	10/18/99	RC	29-RC-1130-5R1	Elbow to Nozzle	B-F	B5.70	8 & 4	PT UT	100% 25%	IWB-2500-8	<p>These exams were performed in October 1999. A PT and 45-degree Dual Transducer Refracted Longitudinal (RL) UT exam was performed to enhance examination beam penetration. There were no recordable indications noted. The exam is performed from the exterior surface of the pipe. Salem's Reactor Coolant system's piping elbows consist of cast stainless steel (A-352, GR CF8M) connected to Steam Generator short radius nozzles (reference sketch 8). It is an industry known phenomena that cast stainless steel does not allow for optimum inspection due to the material's coarse grain structure that attenuates sound. Examinations of other similar welds located on these lines have not identified any signs of leakage or loss of structural integrity or discontinuities. No axial UT examinations were performed from the upstream side of the weld due to the nozzle configuration or from the downstream side due to the elbow being cast stainless. Exams were conducted on the weld and nozzle side only in the clockwise and counter clockwise directions.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

													<p>The total estimated weld length equals 83 3/4" (31") and 76.4" (29") respectively. The thickness is approximately 2.312". The total estimated code coverage achieved was 25% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI. In response to industry events (V.C. Summer) regarding the presence of through wall leakage of reactor coolant piping, PSEG Nuclear conducted various NDE exams during the 10-year outage (April 2001). These exams included a visual examination upon the ID surface of the eight-reactor pressure vessel nozzle to safe-end and safe-end to pipe welds located on the reactor coolant piping lines. No indications were noted.</p> <p>In addition, remotely operated ultrasonic examinations were conducted upon these same welds from the ID using 50- and 70-degree Refracted Longitudinal wave transducers. Again, no indications were noted. In addition, surface (PT) examinations were conducted of these same welds from the OD after removal of the sandbox covers to support access. Again, no indications were noted.</p>	
052600	2-3-1	13	10/18/99	RC	29-RC-1120-5R1	Elbow to Nozzle	B-F	B5.70	8 & 4	PT UT	100% 25%	IWB-2500-8	<p>These exams were performed in October 1999. A PT and 45-degree Dual Transducer Refracted Longitudinal (RL) UT exam was performed to enhance examination beam penetration. There were no recordable indications noted. The exam is performed from the exterior surface of the pipe. Salem's Reactor Coolant system's piping elbows consist of cast stainless steel (A-352, GR CF8M) connected to Steam Generator short radius nozzles (reference sketch 8). It is an industry known phenomena that cast stainless steel does not allow for optimum inspection due to the material's coarse grain structure that attenuates sound. Examinations of other similar welds located on these lines have not identified any signs of leakage or loss of structural integrity or discontinuities. No axial UT examinations were performed from the upstream side of the weld due to the nozzle configuration or from the downstream side due to the elbow being cast stainless. Exams were conducted on the weld and nozzle side only in the clockwise and counter clockwise directions.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

													<p>The total estimated weld length equals 83¾" (31") and 76.4" (29") respectively. The thickness is approximately 2.312". The total estimated code coverage achieved was 25% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI. In response to industry events (V.C. Summer) regarding the presence of through wall leakage of reactor coolant piping, PSEG Nuclear conducted various NDE exams during the 10-year outage (April 2001). These exams included a visual examination upon the ID surface of the eight-reactor pressure vessel nozzle to safe-end and safe-end to pipe welds located on the reactor coolant piping lines. No indications were noted.</p> <p>In addition, remotely operated ultrasonic examinations were conducted upon these same welds from the ID using 50-and 70-degree Refracted Longitudinal wave transducers. Again, no indications were noted. In addition, surface (PT) examinations were conducted of these same welds from the OD after removal of the sandbox covers to support access. Again, no indications were noted.</p>	
054300	2-3-1	13	10/18/99	RC	29-RC-1110-4R1	Elbow to Nozzle	B-F	B5.70	8 & 4	PT UT	100% 25%	IWB-2500-8	<p>These exams were performed in October 1999. A PT and 45-degree Dual Transducer Refracted Longitudinal (RL) UT exam was performed to enhance examination beam penetration. There were no recordable indications noted. The exam is performed from the exterior surface of the pipe. Salem's Reactor Coolant system's piping elbows consist of cast stainless steel (A-352, GR CF8M) connected to Steam Generator short radius nozzles (reference sketch 8). It is an industry known phenomena that cast stainless steel does not allow for optimum inspection due to the material's coarse grain structure that attenuates sound. Examinations of other similar welds located on these lines have not identified any signs of leakage or loss of structural integrity or discontinuities. No axial UT examinations were performed from the upstream side of the weld due to the nozzle configuration or from the downstream side due to the elbow being cast stainless. Exams were conducted on the weld and nozzle side only in the clockwise and counter clockwise directions.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

													<p>The total estimated weld length equals 83¼" (31") and 76.4" (29") respectively. The thickness is approximately 2.312". The total estimated code coverage achieved was 25% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI. In response to industry events (V.C. Summer) regarding the presence of through wall leakage of reactor coolant piping, PSEG Nuclear conducted various NDE exams during the 10-year outage (April 2001). These exams included a visual examination upon the ID surface of the eight-reactor pressure vessel nozzle to safe-end and safe-end to pipe welds located on the reactor coolant piping lines. No indications were noted. In addition, remotely operated ultrasonic examinations were conducted upon these same welds from the ID using 50- and 70-degree Refracted Longitudinal wave transducers.</p> <p>Again, no indications were noted. In addition, surface (PT) examinations were conducted of these same welds from the OD after removal of the sandbox covers to support access. Again, no indications were noted.</p>	
190800	2-2-1	10	5/14/92	11-RCP	11-PMP-Bolts 1-24	Pump Bolts	B-G-1	B6.180	2	UT	70%	IWB-2500-12	<p>These examinations were conducted during May 1992 in accordance with code requirements using available state of the art technology. Exams were conducted upon 17 of 24 bolts (70%) using a 60-degree shear wave transducer and an 88-degree shear wave transducer from the stud's heater hole using an extension pole. The remaining 7 studs (30%) were unable to be examined due to inaccessibility resulting from permanently installed miscellaneous piping (oil pans, CVCS piping and Instrumentation Lines) located approximately 4" - 10" over the top of the stud that prevented access to the studs heater holes 3, 4, 5, 6, 13, 22 and 23. No indications were noted. Studs were examined in place and under tension. No maintenance was performed that supported removal of the studs. System leakage tests (VT2) are conducted at the conclusion of each outage to detect evidence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

													Since 2000, NDE personnel have successfully demonstrated the single side access straight beam ultrasonic exam technique upon a stud at the PDI. PSEG Nuclear has since elected to perform straight beam (0-degree) examinations from the accessible surface of the studs using PDI qualified individuals to perform these exams. PSEG Nuclear failed to re-perform these exams using the current state of the art technique that would have resulted in 100% code coverage being achieved. These exams are currently scheduled to be performed November 2005 during RFO17. Straight beam UT examinations were conducted upon the 13 and 14 Reactor Coolant Pump studs using this technique with the studs being determined as satisfactory.	
191600	2-3-2	14	5/12/92	12-RCP	12-PMP-Bolts 1-24	Pump Bolts	B-G-1	B6.180	2	UT	67%	IWB-2500-12	<p>These examinations were conducted during May 1992 in accordance with code requirements using available state of the art technology. Exams were conducted upon 16 of 24 bolts (67%) using a 60-degree shear wave transducer and an 88-degree shear wave transducer from the stud's heater hole using an extension pole. The remaining 8 studs (33%) were unable to be examined due to inaccessibility resulting from permanently installed miscellaneous piping (oil pans, CVCS piping and Instrumentation Lines) located approximately 4" - 10" over the top of the stud UT inspection heater holes for studs 3, 4, 5, 6, 13, 14 and 23. No indications were noted. Studs were examined in place and under tension. No maintenance was performed that supported removal of the studs. System leakage tests (VT2) are conducted at the conclusion of each outage to detect evidence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI.</p> <p>Since 2000, NDE personnel have successfully demonstrated the single side access straight beam ultrasonic exam technique upon a stud at the PDI. PSEG Nuclear has since elected to perform straight beam (0-degree) examinations from the accessible surface of the studs using PDI qualified individuals to perform these exams. PSEG Nuclear failed to re-perform these exams using the current state of the art technique that would have resulted in 100% code coverage being achieved. These exams are currently scheduled to be performed November 2005 during RFO17. Straight beam UT examinations were conducted upon the 13 and 14 Reactor Coolant Pump studs using this technique with the bolting determined as satisfactory.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

100200	2-3-1	13	10/20/99	SJ	10-SJ-1121-8	Elbow to Pipe	B-J	B9.11	11	PT UT	100% 47%	IWB-2500-8	<p>These exams were performed in October 1999. A PT and UT examination was performed upon the pipe to elbow configuration with no recordable indications identified. The UT examinations were conducted using a ½" 45-degree shear wave and refracted longitudinal transducers. UT examinations were unable to be performed from the downstream side, due to the penetration wall obstruction. The wall penetration does not allow sufficient access to support scanning of the weld from the pipe side located within the wall. A refracted longitudinal transducer was used to improve beam penetration through the base material and weld. ASME XI requires scanning be accomplished in two beam directions. Since longitudinal wave transmission does not lend itself to skipping scanning was only successfully accomplished in one direction. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld.</p> <p>The total estimated weld length equals approximately 27-3/8". The thickness is approximately 1.35". Approximately one half of the weld was examined full volume. The total estimated code coverage was approximately 47% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No
115300	2-2-1	10	5/19/92	SJ	6-SJ-1141-1	Reducer to Elbow	B-J	B9.11	12	PT UT	100% 86%	IWB-2500-8	<p>These examinations were performed in May 1992. A PT and UT examination was performed upon the reducer to elbow configuration. Recordable PT and UT indications were identified and evaluated to be acceptable in accordance with ASME XI IWB-3500 and ID geometry respectively. The UT examinations were conducted using a 45-degree shear wave transducer. The UT examination was limited to ¼" from the weld centerline due to reducer's configuration. The total estimated weld length equals approximately 21". The thickness is approximately ¾". The total estimated code coverage achieved was approximately 86% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

122300	2-3-1	13	10/15/99	SJ	6-SJ-1121-2	Elbow to Valve	B-J	B9.11	15	PT UT	100% 64%	IWB-2500-8	<p>These examinations were performed in October 1999 using an approved PDI technique. A PT and UT examination was performed upon the elbow to valve configuration with no recordable indications identified. The UT examinations were conducted using 45-degree shear wave and Refracted Longitudinal (RL) transducers. The UT examination was performed from the elbow side due to the valve's OD configuration. Attempts to utilize a shear wave to investigate the opposite side of a weld have been proven through the PDI initiative to be unreliable; therefore no credit is taken for the far side of the weld. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld.</p> <p>The total estimated weld length equals approximately 21". The thickness is approximately ¾". The total estimated code coverage achieved was approximately 64% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No
122700	2-1-1	09	5/5/89	SJ	6-SJ-1112-1	Reducer to Valve	B-J	B9.11	16	PT UT	100% 64%	IWB-2500-8	<p>These examinations were performed in May 1989. A PT and UT examination was performed upon the reducer to valve configuration with no recordable indications identified. The UT examinations were conducted using a 45-degree shear wave transducer. The UT examination was performed from the reducer side due to the valve's OD configuration. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 21". The thickness is approximately ¾". The total estimated code coverage achieved was approximately 64% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

124100	2-2-1	10	5/19/92	SJ	6-SJ-1111-1	Reducer to Valve	B-J	B9.11	21	PT UT	100% 82%	IWB-2500-8	These examinations were performed in May 1992. A PT and UT examination was performed upon the reducer to valve configuration. Recordable UT indications were identified and evaluated to be ID geometry. The UT examinations were conducted using a 45-degree shear wave transducer. The UT examination was performed from the reducer side due to the valve's OD configuration. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 21". The thickness is approximately 3/4". The total estimated code coverage achieved was approximately 82% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
129400	2-1-2	09	2/21/91	SJ	4-SJ-1182-18	Pipe to Elbow	B-J	B9.11	22	PT UT	100% 87%	IWB-2500-8	These examinations were performed in February 1991. A PT and UT examination was performed upon the pipe to elbow configuration. Recordable UT indications were identified and evaluated to be ID geometry. The UT examinations were conducted using a 45-degree shear wave transducer. The UT examination was performed from both sides of the weld. A 1" branch connection weld is located on the pipe side of the weld and interferes with the circumferential scanning of the pipe side between 5- 8 1/4" since it is 1" away from the circumferential weld. The total estimated weld length equals approximately 17 1/2". The thickness is approximately 3/4". The total estimated code coverage achieved was approximately 87% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

133800	2-2-1	10	10/19/92	SJ	4-SJ-1172-28	Tee to Reducer	B-J	B9.11	23	PT UT	100% 86%	IWB-2500-8	These examinations were performed in October 1992 with recordable indications identified. The indication was evaluated to be ID geometry. PT and UT examinations were performed satisfactorily. The UT examinations were conducted using a 45-degree shear wave transducer. The UT examination was performed from the reducer side only due to the tee's configuration and acoustic properties. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 17½". The thickness is approximately ¾". The total estimated code coverage achieved was approximately 86% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
030100	2-3-1	13	10/20/99	PS	4-PS-1131-1	Branch Connection to Pipe	B-J	B9.11	9	PT UT	100% 75%	IWB-2500-8	These exams were performed in October 1999. A PT and UT examination was performed upon the branch connection to pipe connection with no recordable indications identified. The UT examination was performed using 45-degree shear wave and refracted longitudinal (RL) transducers. UT examinations were conducted from the pipe side and upon the weld due to the OD configuration of the branch connection. ASME XI requires scanning be accomplished in two beam directions. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals 14.125". The thickness is approximately ½". The total estimated code coverage achieved was 75% for UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

036500	2-1-2	09	2/23/91	PS	4-PS-1111-23	Valve to Tee	B-J	B9.11	17	PT UT	100% 50%	IWB-2500-8	<p>These exams were performed in February 1991. A PT and UT examination was performed upon the branch connection to pipe connection with recordable indications identified. The indication was evaluated to be ID geometry. The UT examination was performed using a 45-degree shear wave transducer. UT examinations were conducted upon the weld in the clockwise and counterclockwise directions due to the OD configuration of the valve to tee weld. ASME XI requires scanning be accomplished in two beam directions. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals 14-3/8". The thickness is approximately 5/8". The total estimated code coverage achieved was 50% for the UT and 100% for the PT exams completed.</p> <p>System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI.</p>	No
037400	2-1-2	09	3/7/91	RC	31-RC-1140-3	Elbow to Pipe	B-J	B9.11	8 & 4	PT UT	100% 76%	IWB-2500-8	<p>These exams were performed in March 1991. A PT and 45-degree shear wave exam was performed. There were no recordable indications noted. The exam is performed from the exterior surface of the pipe. Salem's Reactor Coolant system's piping elbows consist of cast stainless steel (A-352, GR CF8M) connected to Steam Generator short radius nozzles (Reference sketches 8 and 10). It is an industry known phenomena that cast stainless steel does not allow for optimum inspection due to the material's coarse grain structure that attenuates sound. Examinations of other similar welds located on these lines have not identified any signs of leakage or loss of structural integrity or discontinuities. No axial UT examinations were performed from the pipe side of the weld due to the elbow being made of cast stainless steel. Axial and circumferential UT exams were conducted on the weld and pipe side and in the clockwise and counter clockwise directions.</p>	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

														<p>The total estimated weld length equals 97.4 ". The thickness is approximately 2½". The total estimated code coverage achieved was 76% for the UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. In response to industry events (V.C. Summer) regarding the presence of through-wall leakage of reactor coolant piping, PSEG Nuclear conducted various NDE exams during the 10-year outage (April 2001). These exams included a visual examination upon the ID surface of the eight-reactor pressure vessel nozzle to safe-end and safe-end to pipe welds located on the reactor coolant piping lines. No indications were noted.</p>	
045600	2-3-1	13	10/20/99	RC	31-RC-1110-4	Pipe to Elbow	B-J	B9.11	10	PT UT	100% 38%	IWB-2500-8	<p>These exams were performed in October 1999. A PT and 45-degree Dual Transducer Refracted Longitudinal (RL) UT exam was performed to enhance examination beam penetration. There were no recordable indications noted. The exam is performed from the exterior surface of the pipe. Salem's Reactor Coolant system's piping elbows consist of cast stainless steel (A-352, GR CF8M) connected to Steam Generator short radius nozzles (Reference sketches 8 and 10). It is an industry known phenomena that cast stainless steel does not allow for optimum inspection due to the material's coarse grain structure that attenuates sound. Examinations of other similar welds located on these lines have not identified any signs of leakage or loss of structural integrity or discontinuities. No axial UT examinations were performed from the pipe side of the weld due to the elbow being made of cast stainless steel. Axial and circumferential UT exams were conducted on the weld and pipe side and in the clockwise and counter clockwise directions.</p> <p>The total estimated weld length equals 97.4 ". The thickness is approximately 2½". The total estimated code coverage achieved was 38% for the UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. In response to industry events (V.C. Summer) regarding the presence of through wall leakage of reactor coolant piping, PSEG Nuclear conducted various NDE exams during the 10-year outage (April 2001). These exams included a visual examination upon the ID surface of the eight-reactor pressure vessel nozzle to safe-end and safe-end to pipe welds located on the reactor coolant piping lines. No indications were noted.</p>	No	

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

096700	2-2-2	11	10/26/93	SJ	10-SJ-1141-14	Valve to Tee	B-J	B9.11	18	PT UT	100% 0%	IWB-2500-8	These exams were performed in October 1993. A PT examination was performed upon the valve to tee configuration with no recordable indications identified. No UT examination of the valve to tee configuration was performed due to the OD valve to tee configuration and the stainless steel acoustic properties. ASME XI requires scanning be accomplished in two beam directions. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals 35-1/8". The thickness is approximately 1.7". The total estimated code coverage achieved was 0% for the UT and 100% for the PT exams completed. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI.	No
098500	2-2-3	12	10/26/95	SJ	10-SJ-1131-10	Pipe to Elbow	B-J	B9.11	20	PT UT	100% 86%	IWB-2500-8	These exams were performed in October 1995. A PT and UT examination was performed upon the pipe to elbow configuration with no recordable indications identified. The UT examinations were conducted using a 45- and 60-degree shear wave transducer. UT examinations were limited from the downstream side, due to the elbow's intrados curvature that precludes transducer contact. UT examination was not permissible from the downstream for a distance of 4" within the intrados area between 15 - 19". The total estimated weld length equals approximately 39". The thickness is approximately 1.10". Approximately 35" of the weld was examined full volume. The total estimated code coverage was 86% for UT and 100% for PT exams. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

016700	2-3-2	14	4/24/01	CVCS	3-CV-1141-14	Valve to Elbow	B-J	B9.21	24	PT UT	100% 50%	IWB-2500-8	These examinations were performed in April 2001 using a PDI approved UT examination technique. A PT and UT examination was performed upon the valve to elbow configuration with no recordable indications identified. The UT examinations were conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the elbow side due to the OD valve configuration. No scanning could be performed from the valve side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 9-1/8". The thickness is approximately 1/2". The total estimated code coverage achieved was approximately 50% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes IEB 88-08
027800	2-1-2	09	2/20/91	PR	3-PR-1107-10	Pipe to Valve	B-J	B9.21	None	PT	37%	IWB-2500-8	PT exams were performed February 1991. A PT exam was performed upon the weld with no recordable indications noted. The PT examination was limited due to the presence of permanently attached restraints adjacent to the weld within the exam area between 2" - 9" clockwise. The total estimated weld length equals approximately 11". The total estimated coverage achieved was approximately 37%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
054700	2-2-1	10	5/14/92	RC	-RC-1140-1/10-SJ-1	Pipe to Branch Connectio	B-J	B9.31	14	PT UT	100% 75%	IWB-2500-8	These examinations were performed in May 1992. A PT and UT examination was performed upon the pipe to branch connection configuration with no recordable indications identified. The UT examinations were conducted using 39- and 45-degree shear wave transducers. The UT examination was performed from the pipe side due to the OD branch connection configuration. No scanning could be performed from the branch connection side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 45.5". The thickness is approximately 2.60". The total estimated code coverage achieved was approximately 75% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

059100	2-2-1	10	5/14/92	RC	-RC-1110-1/4-PS-1	Pipe to Branch Connectio	B-J	B9.31	13	PT UT	100% 75%	IWB-2500-8	These examinations were performed in May 1992. A PT and UT examination was performed upon the pipe to branch connection configuration with no recordable indications identified. The UT examinations were conducted using 32- and 45-degree shear wave transducers. The UT examination was performed from the pipe side due to the OD branch connection configuration. No scanning could be performed from the branch connection side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 45.5". The thickness is approximately 2.60". The total estimated code coverage achieved was approximately 75% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
161100	2-1-2	09	2/16/91	SJ	2-SJ-1128-57	Coupling to Pipe	B-J	B9.40	26	PT	83%	IWB-2500-8	This examination was conducted May 1989. A PT examination was performed upon the coupling to pipe connection with no recordable indications noted. The PT examination was limited due to the presence of a permanently welded support plate that interfered with the examination from 3/4" to 4 1/2". The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 7 1/2". The thickness is approximately 1/4". The total estimated code coverage achieved was approximately 83% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
180900	2-1-1	08	5/9/89	SJ	1.5-SJ-1122-7	Tee to Pipe	B-J	B9.40	None	PT	52%	IWB-2500-8	These examinations were conducted May 1989. A PT examination was performed upon the weld with no recordable indications noted. The PT examination was limited due to the presence of a permanently welded pipe support between 0" - 2 1/2" and 3 1/2" - 6" that interfered with the exam area. The total estimated weld length equals approximately 9.5". The thickness is approximately 0.375". The total estimated code coverage achieved was approximately 52% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

191000	2-1-1	08	5/12/89	RCP	11-PMP-1LG	Lug	B-K-1	B10.20	2	PT	84%	IWB-2500-15	PT exams were performed May 1989. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's permanently welded support structure that interfered with the exam upon the lower portion of the lug for approximately 18". The total estimated weld length equals approximately 110". The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 84%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI.	No
191100	2-1-1	08	10/8/99	11-RCP	11-PMP-2LG	Lug	B-K-1	B10.20	2	PT	84%	IWB-2500-15	PT exams were performed October 1999. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 18". The total estimated weld length equals approximately 110". The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 84%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
192600	2-3-1	13	10/8/99	13-RCP	13-PMP-1LG	Pump Lug	B-K-1	B10.20	2	PT	84%	IWB-2500-15	PT exams were performed May 1989 and October 1999. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 18". The total estimated weld length equals approximately 110". The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 84%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

192650	2-3-1	13	10/8/99	13-RCP	13-PMP-2LG	Pump Lug	B-K-1	B10.20	2	PT	84%	IWB-2500-15	PT exams were performed May 1989 and October 1999. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 18". The total estimated weld length equals approximately 110". The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 84%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
192700	2-3-1	13	10/8/99	13-RCP	13-PMP-3LG	Pump Lug	B-K-1	B10.20	2	PT	84%	IWB-2500-15	PT exams were performed May 1989 and October 1999. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 18". The total estimated weld length equals approximately 110". The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 84%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
191150	2-1-1	08	5/12/89	11-RCP	11-PMP-3LG	Lug	B-K-1	B10.20	2	PT	84%	IWB-2500-15	PT exams were performed May 1989. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 18". The total estimated weld length equals approximately 110". The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 84%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
191800	2-2-2	10	11/1/93	12-RCP	12-PMP-1LG	Lug	B-K-1	B10.20	2	PT	72%	IWB-2500-15	PT exams were performed November 1993. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 30". The total estimated weld length equals approximately 110". The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 72%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table I
Relief Request S1-RR-B01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

191900	2-2-2	10	11/1/93	12-RCP	12-PMP-3LG	Lug	B-K-1	B10.20	2	PT	76%	IWB-2500-15	PT exams were performed November 1993. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 25.5". The total estimated weld length equals approximately 110'. The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 76%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
193400	2-2-2	10	11/1/93	14-RCP	14-PMP-1LG	Lug	B-K-1	B10.20	2	PT	72%	IWB-2500-15	PT exams were performed November 1993. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 24.5". The total estimated weld length equals approximately 110'. The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 72%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
193450	2-2-2	10	11/1/93	14-RCP	14-PMP-2LG	Lug	B-K-1	B10.20	2	PT	74%	IWB-2500-15	PT exams were performed November 1993. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 27.5". The total estimated weld length equals approximately 110'. The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 74%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
193500	2-2-2	10	10/18/99	14-RCP	14-PMP-3LG	Lug	B-K-1	B10.20	2	PT	76%	IWB-2500-15	PT exams were performed November 1993. A PT exam was performed upon the integral attachment with no recordable indications noted. The PT examination was limited due to the presence of the pump's welded support structure that interfered with the exam upon the lower portion of the lug for approximately 25.5". The total estimated weld length equals approximately 110'. The thickness of the lug is approximately 2.0". The total estimated coverage achieved was approximately 76%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

Attachment II

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

NRC Approved (Yes or No): _____ Date: _____ Ref: _____

NOTE:

Salem Unit 1 – Second Ten-Year Inservice Inspection (ISI) Interval inservice inspection examinations were performed between February 27, 1988 (start) and May 19, 2001 (end). During this time Salem Unit 1 was shutdown for an extended period (April 4, 1995 through April 17, 1998 - 36 months and 10 days).

Component Description:

Salem Unit 1 NDE exam limitations of Class 2 bolting components and welds located upon pressure vessels and piping systems

ASME Section XI Class:

Class 2

Code Requirement:

Salem Unit 1 second Ten-Year Interval Inservice Inspection (ISI) inservice inspection examinations were performed in accordance with the requirements of ASME Boiler and Pressure Vessel Code Section XI, 1983 Edition up through and including Summer 1983 Addenda Article IWC-2500 to the extent practical. Table IWC-2500-1 defines examination requirements for Class 2 components. The table contains information associated with the identification of components to be examined by nondestructive examination; this includes the applied nondestructive examination (NDE) method, acceptance standard, and extent of exam coverage and exam frequency.

The 1999 Edition of 10CFR50.55a "Codes and Standards" was revised by a Federal Register Notice dated September 22, 1999 (64FR51400) that defined new requirements for coverage and examination demonstrations. These requirements affected both class 1 and 2 bolting, piping system welds, and reactor pressure vessel nondestructive examinations.

ASME, Section XI, 1983 Edition, Summer 1983 Addenda, requires volumetric and/or surface and visual examinations be performed upon components and welds identified within Table IWC-2500-1 Exam Categories C-A, C-B, C-F-1 and C-F-2, and C-C.

A. Exam Category C-A Pressure Retaining Welds in Pressure Vessels

Section XI Exam Categories C-A requires volumetric weld examinations to be performed upon various pressure vessel shell circumferential, head and tube-sheet welds (Item Numbers C1.10, C1.11 and C1.12, respectively); closure

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

head circumferential and meridional welds (Item Numbers B1.21 and B1.22, respectively) and the associated reactor pressure vessel flange welds (Items B1.30 and B1.40). The examinations may be limited to one vessel among the group of vessels performing a similar function.

B. Exam Category C-B Pressure Retaining Nozzle Welds in Vessels

Section XI Exam Categories C-B requires volumetric weld examinations to be performed upon pressure retaining nozzle to shell welds and nozzle inner radius sections contained within pressure vessels. The examinations may be limited to one vessel among the group of vessels performing a similar function.

C. Exam Category C-C Welded Integral Attachments

Section XI Exam Category C-C, *Integral Attachments for Class 2 Vessels, Piping, and Pumps and Valves*, requires surface examinations be conducted upon welded integral attachments attached to reactor coolant pump casings.

PSEG Nuclear conducted welded integral attachment weld exams in accordance with the requirements imposed by ASME Section XI Code Case N-509, *Alternative Rules for the Selection and Examination of Class 1, 2 and 3 Integrally Welded Attachments*.

D. Exam Category C-F-1 and C-F-2 Retaining Piping Welds

PSEG Nuclear conducted class 2 piping exams in accordance with the requirements imposed by ASME Section XI Code Case N-408 Alternative Rules for Examination of Class 2 Piping Exam Categories C-F-1 and C-F-2. This code case required surface and volumetric weld examinations be performed upon welds greater than 4" diameter and 0.375" thickness (Item C5.10) and ≥ 2 " diameter but ≤ 4 " (Item C5.20). In addition, it required surface exams of socket welds (Item C5.30). Pipe branch connections of branch piping >2 " diameters received surface examination (Item C5.40).

Piping long seams were conducted in accordance with the requirements of Code Case N-524, *Alternative Examination Requirements for Longitudinal Welds in Class 1 and 2 Piping*.

The attached table contains detailed information related to the explanation of those components demonstrating inadequate code exam coverage extent due to inaccessibility, physical limitation or obstruction.

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

Basis for Relief:

Pursuant to 10CFR50.55a (g)(5)(iii), relief is requested from ASME XI examination requirements for the performance of the following bolting, piping and vessel welds due to exam limitations. The table herein identifies those inservice inspection nondestructive examinations contained within the Salem Unit 1 ISI Program Long Term Plan for the Second Ten-Year Interval whose NDE exams were found to be inaccessible, physically limited or partially obstructed and not capable of fully meeting code coverage requirements for examination extent. These components are identified within the attached table and supplemented by additional descriptive details (sketches, illustrations, and/or drawings) enclosed within Appendix A.

Subject components contained herein have received inservice inspection NDE examinations to the "extent practical" within the limitations of design, geometry and materials of construction of the components as allowed by Code. These components have also undergone necessary volumetric examination by radiography and/or surface examinations during fabrication, in accordance with approved construction/fabrication code requirements providing adequate assurance for the structural integrity of the components prior to plant operation. In addition, these components have been subjected to a visual examination for leakage after completion of each refueling outage.

PSEG Nuclear utilizes approved technical procedures written in accordance to applicable ASME Code section/paragraph criterion for area/volume requirements. Plant procedures require the documentation of the location and cause of the limitation.

A. Exam Category C-A Pressure Retaining Welds in Pressure Vessels

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the subject welds since the vessel would require design modifications that would impose a significant burden to PSEG Nuclear. PSEG Nuclear has examined these welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other RPV welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. In addition, VT-2 visual examinations performed in conjunction with system pressure testing have found these welds to be acceptable with no leakage observed.

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

B. Exam Category C-B Pressure Retaining Nozzle Welds in Vessels

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the subject welds since the vessel would require design modifications and would impose a significant burden to PSEG Nuclear. PSEG Nuclear has examined these welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other similar vessel welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. In addition, VT-2 visual examinations performed in conjunction with system pressure testing have found these welds to be acceptable with no leakage observed.

C. Exam Category C-F-1 and C-F-2 Retaining Piping Welds

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Required Code coverage is impractical for the subject welds since the piping system would require design modifications and would impose a significant burden to PSEG Nuclear. PSEG Nuclear has examined these welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other similar piping welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. Further, VT-2 visual examinations performed in conjunction with system pressure testing have found these welds to be acceptable with no leakage observed.

Code required volumetric examinations are conducted by ultrasonic examination from both the upstream and downstream directions of piping welds. Ultrasonic examination of certain terminal ends and structural discontinuities are considered to be impractical due to their configuration and material acoustic properties.

The EPRI Performance Demonstration Initiative (PDI) is in agreement with the NRCs September 22, 1999 Final Rule regarding single side access for piping. The Final Rule requires that if access is available, austenitic steel weld shall be scanned in each of the four directions (parallel and perpendicular to the weld) where required. PDI has not been able to qualify a single side examination procedure technique that is capable of demonstrating equivalency for a two-sided examination procedure technique on austenitic

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

piping welds. Current technology is not capable of reliably detecting or sizing flaws on the far side of an austenitic weld for configurations common to nuclear applications. Ultrasonic examination of ferritic steel welds requires scanning in the two axial scan directions. Circumferential scanning is required in the remaining two directions only when axial indications were noted during preservice inspections. Coverage credit may be taken for single side exams on ferritic piping. However, for austenitic piping, a procedure must be qualified with flaws on the inaccessible side of the weld.

As previously stated, current technology is not capable of reliably detecting or sizing flaws on the far side of austenitic weld for configurations common to US nuclear applications. To demonstrate that the best available technology was applied, PDI provides a best effort qualification instead of a complete single sided qualification. PDI Performance Demonstration Qualification Summary (PDQS) austenitic piping certificates list the limitation that single side examination is performed on a best effort basis. When performing single side access of austenitic stainless steel piping welds the best available techniques are used from the accessible side of the weld, as qualified through the PDI.

When the examination area is limited to one side of an austenitic weld, examination coverage does not comply with 10CFR50.55a(b)(2)(xv)(A) or the ASME Section XI requirements and proficiency demonstrations do not comply with 10CFR50.55a(b)(2)(xvi) and full coverage credit may not be claimed. PSEG Nuclear considers exams accessed from a single side of an austenitic piping welds to be fully examined to the extent practical.

D. Exam Category C-C Welded Integral Attachments

Reference applicable sections of this category within the table attached to identify specific component information and explanation of the limitation(s) encountered.

Full Code required coverage is impractical for the subject welds since the integral attachment would require design modifications and would impose a significant burden to PSEG Nuclear. In addition, removal of the component support attached to pump would result in the need to redesign the system's configuration in order to achieve access to the area obstructed. PSEG Nuclear has examined these welds to the extent practical and determined them to be acceptable with no observed signs of degradation. In addition, other similar vessel welds have been examined to the extent required by the Code and also found to be acceptable with no observed signs of degradation. Also, VT-2 visual examinations performed in conjunction with system pressure testing after each refueling outage found these welds to be acceptable with no leakage observed.

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

Alternative Examination:

For the 3rd Ten-Year ISI Interval, inservice inspection examinations will be performed in accordance with the Final Rule requirements and ASME Section XI 1995 Edition up through and including 1996 Addenda Article IWC-2500 and NRC approved RI-ISI requirements to the extent practical.

PSEG Nuclear proposes to perform NDE examinations upon the components identified in the exam categories below using the current state of the art techniques as demonstrated through the EPRI PDI Program to the extent practical.

A. Exam Category C-A Pressure Retaining Welds in Pressure Vessels

Where the component will not allow an ultrasonic angle beam examination from both sides of the weld, the following will be performed using the best available technology as demonstrated through the EPRI PDI program:

- Similar metal welds, 100% of the required volume will be examined to the extent practical using personnel and techniques qualified and demonstrated through the EPRI PDI, as necessary.
- The code required system pressure test examinations will be performed per ASME XI requirements

B. Exam Category C-B Pressure Retaining Nozzle Welds in Vessels

Where the component will not allow an ultrasonic angle beam examination from both sides of the weld, the following will be performed using the best available technology as demonstrated through the EPRI PDI program:

- Similar metal welds, 100% of the required volume will be examined to the extent practical using personnel and techniques qualified and demonstrated through the EPRI PDI, as necessary.
- The code required system pressure test examinations will be performed per ASME XI requirements

C. Exam Category C-F-1 and C-F-2 Retaining Piping Welds

Where the component will not allow an ultrasonic angle beam examination for axial scans (upstream and downstream), the following will be performed using the best available technology as demonstrated through the EPRI PDI program:

Relief Request: S1-RR-C01
Second Ten-Year Interval Inservice Inspection NDE Exam Limitations
Salem Unit 1

- Similar metal welds, 100% of the required volume will be examined in at least one axial direction and two circumferential scans adjacent to the weld and upon the weld will be conducted by ultrasonic examination using personnel and techniques qualified and demonstrated through the EPRI PDI program for single sided access relating to the material type to be examined.
- Austenitic to Inconel dissimilar metal welds, 100% of the required volume will be examined in at least one axial direction and two circumferential scans adjacent to the weld and upon the weld will be conducted by ultrasonic examination using personnel and techniques qualified and demonstrated through the EPRI PDI program for single sided access relating to the material type to be examined
- The code required surface and system pressure test examinations will be performed per ASME XI requirements
- PSEG Nuclear is currently preparing its submittal for a Risk Informed Inservice Inspection (RI-ISI) Program in accordance with NRCs EPRI approved methodology for both Salem Units class 1 and 2 systems for NRC approval. During the conduct of RI-ISI program preparation, PSEG Nuclear will consider the non-selection of those components that have been deemed inaccessible, physically limited or partially obstructed portions provided the NRCs approved RI-ISI EPRI methodology allows.

D. Exam Category C-C Welded Integral Attachments

These examinations will be performed in accordance with the requirements of ASME Section XI 1995 Edition up through and including 1996 Addenda, Article IWC-2500.

Applicability

This Relief Request is applicable to the following:

Salem Unit 1 – Second Ten-Year Inservice Inspection Interval

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

Summary No.	Interval/Period/Outage No.	Outage Name 1RXX	Exam Date	System	Component Identification	Geometric Configuration	ASME Category	Item No.	Sketch No.	Exam Method Limited	Completed Exam Amount	Code Required Volume	Exam Information and Limitation Description	Augmented Exam
204400	2-3-2	14	4/27/01	BIT	1-BIT-A	Shell Circ. Weld	C-A	C1.10	25	UT	86%	IWC-2500-1	This examination was conducted April 2001 using approved PDI exam techniques. The following UT exams were completed using 0, 45, and 60 degree shear wave transducers with no recordable indications noted. The examination was limited due to the vessel supports and branch connection lines that interfered with scanning. The total estimated weld length equals approximately 179'. The thickness is approximately 1.5". Approximately 138% of the weld was examined full volume. The total estimated code coverage achieved was approximately 86% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI.	No
204410	2-3-2	14	4/27/01	BIT	1-BIT-B	Transition Piece to Shell	C-A	C1.10	25	UT	66%	IWC-2500-1	This examination was conducted April 2001 using approved PDI exam techniques. The following UT exams were completed using 0, 45, and 60 degree shear wave transducers with no recordable indications noted. The examination was limited due to a 2 1/4" wide insulation ring partially covering the weld, branch connections and welded lugs. The total estimated weld length equals approximately 179'. The thickness of the transition piece varies between 3.0" - 4.4". Approximately 119-38% of the weld was examined full volume. The total estimated code coverage achieved was approximately 66% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
205030	2-2-2	11	10/13/93	RCF	1-RCF-2	Flange to Shell	C-A	C1.10	28	UT	73%	IWC-2500-1	This examination was conducted October 1993. UT exams were completed using a 0 and 45-degree shear wave transducer with no recordable indications noted. The examination was limited due to the flange configuration and a shell side welded support. The scan was limited between 17" - 20 1/2" (3 1/4") with the available scanning area limited to 3/16". The total estimated weld length equals approximately 43-7/8". The thickness is 1/2". Approximately 34" of the weld was examined full volume. The total estimated code coverage achieved was approximately 73% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
205150	2-1-1	08	5/8/89	RHRHEX	11-RHRHEX-1	Flange to Shell	C-A	C1.10	29	UT	75%	IWC-2500-1	This examination was conducted May 1989. UT exams were completed using a 0- and 45-degree shear wave transducer with recordable indications noted. Recordable indications were evaluated to be ID geometry. No examinations were performed from the flange side (upstream) due to the flange's configuration. No examinations were conducted between 112" to 5" clockwise and 52" - 68" clockwise due to the flange's configuration. The total estimated weld length equals approximately 122'. The thickness is 1.0". Approximately 31' of the weld was not examined full volume. The total estimated code coverage achieved was approximately 75% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

205160	2-3-2	14	4/14/01	RHRHEX	11-RHRHEX-2	Shell Circ. Weld	C-A	C1.10	29	UT	16%	IWC-2500-1	This examination was conducted 4/14/2001 using PDI approved exam techniques. UT exams were completed using a 45-degree shear wave and 60-degree Refracted Longitudinal wave transducers with recordable indications noted. Recordable indications were evaluated to be ID geometry. No examinations were performed from the flange side (upstream) due to the flange's configuration and vessel supports. No examinations were conducted between 112° to 5° clockwise and 52°- 66° clockwise due to the flange's configuration. The total estimated weld length equals approximately 122'. The thickness is 1.0". Approximately 19% of the weld was examined full volume. The total estimated code coverage achieved was approximately 16% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
204800	2-3-1	13	10/15/99	CVCT	1-CVCT-2	Shell to Lower Hed	C-A	C1.20	32	UT	82%	IWC-2500-1	This examination was conducted October 1999. UT exams were completed using a 0-, and 45-degree shear wave transducers with recordable indications noted. Two recordable indications were found and evaluated to be unacceptable in accordance with ASME IWB-3511. The indication found is scheduled for re-examination in accordance with ASME XI IWC-2420 during 1R15 (Fall 2002). The ultrasonic examinations conducted were found limited due to the four attached vessel support plates that interfered with scanning. Exams were performed from both sides of the weld. The scan area is obstructed for approximately 13' at 4 locations (45, 135, 225 and 315 degrees). The total estimated weld length equals approximately 2825'. The thickness is 0.25". Approximately 230% of the weld was examined full volume. The total estimated code coverage achieved was approximately 82% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
204870	2-3-1	13	10/12/99	ELHEX	1-ELHEX-2	Shell to Lower Head	C-A	C1.20	31	UT	72%	IWC-2500-1	This examination was conducted October 1999. UT exams were completed using a 45-degree shear wave transducer with recordable indications noted. The recordable indications were evaluated to be ID geometry. The ultrasonic examinations conducted were found limited due to the configuration of two branch connections that interfered with scanning. There were no scanning obstructions located on the head side of the weld. One branch connection is located at the top center of the vessel (45°) and the other is located 10.5° to 14.5° clockwise (45°). The total estimated weld length equals approximately 30'. The thickness is 3/4". Approximately 21% of the weld was examined full volume. The total estimated code coverage achieved was approximately 72% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
205020	2-2-2	11	10/13/93	RCF	1-RCF-1	Upper Head to Flange	C-A	C1.20	28	UT	48%	IWC-2500-1	This examination was conducted October 1993. UT exams were completed using a 45-degree shear wave transducer with recordable indications being noted as due to ID geometry. The ultrasonic examinations conducted were limited due to the configuration of the head and the flange's configuration. The exam's scan area was limited to 3/4" due to the head's curvature. There were no exams conducted from the flange side due to configuration. Scanning was performed across the weld surface in all directions. The total estimated weld length equals approximately 44'. The thickness is 3/4". The total estimated code coverage achieved was approximately 48% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

205040	2-3-2	14	4/10/01	RCF	1-RCF-3	Shell to Lower Head	C-A	C1.20	28	UT	57%	IWC-2500-1	This examination was conducted April 2001 using approved PDI exam techniques. The UT exam were completed using a 45-degree shear wave transducer with no recordable indications noted. The ultrasonic examination conducted were limited due to the configuration of the nozzle configuration and attached lugs. The exam area was limited on the upstream side due to the lugs and nozzle configuration and on the downstream side due to the lugs. The total estimated weld length equals approximately 449'. The thickness is approximately 0.28". The total estimated code coverage achieved was approximately 57% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
205095	2-1-2	09	2/27/91	RHE	1-RHE-3	Tubesheet to Shell	C-A	C1.30	30	UT	68%	IWC-2500-2	This examination was conducted February 1991. UT exams were completed using a 0-, 45- and 60-degree shear wave transducers with recordable indications noted. The indications were evaluated to be ID geometry. The ultrasonic examinations conducted were limited due to two branch connections, hanger and restraint. The exam was limited to 3/4" from the shell side between 27' - 29" and from 12' - 16" due to branch connections. The exam was also limited to 1" - 2 1/2" from the tubesheet side due to hanger and pipe restraint which interfered with the available scan area. No exam could be performed from 15' - 28" due to mounting plate support. The total estimated weld length equals approximately 29'. The thickness is 0.94". The total estimated code coverage achieved was approximately 68% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
204001	2-3-2	14	4/27/01	11-STG	16-BFN-2111-1	Nozzle to Shell	C-B	C2.21	33 & 4	UT MT	71% 85%	IWC-2500-4(a)	These examinations were performed in April 2001 using approved PDI exam techniques. A MT and UT examination was performed upon the nozzle to shell configuration with no recordable indications identified. The UT examinations were conducted using a 0-, 45- and 60-degree shear wave transducer. The UT examination was performed from the shell side. The exam was limited 16" due to the presence of the insulation ring covering the weld. The removal of the insulation ring (belly band) would require extensive removal of the adjoining insulation attached to the ring so that the ring could be removed/replaced. In addition the erection/removal of additional scaffolding would be needed, this would result in an increase in overall personnel exposure. There have been no previous indications or problems noted associated with this or other similar steam generator nozzle to shell welds. The total estimated weld length equals approximately 109'. The thickness is approximately 3.88". The total estimated code coverage achieved was approximately 71% for the UT and 85% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

204450	2-3-1	13	10/20/99	BIT	1-BIT-2	Nozzle to Shell	C-B	C2.21	25	UT	MT	21.2% 100%	IWC-2500-4(a)	These examinations were performed in October 1989. A MT and UT examination was performed upon the nozzle to shell configuration with no recordable indications identified. The UT examinations were conducted using a 0-, 45-, and 60-degree shear wave transducers. The UT examination was performed from the head side. The exam was limited due to the nozzle's OD configuration. The total estimated weld length equals approximately 36.8'. The thickness is approximately 2 1/2". The total estimated code coverage achieved was approximately 21% for the UT and 100% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
205163	2-1-1	08	5/6/89	RHRHEX	11-RHRHEX-IN	Nozzle to Shell	C-B	C2.21	29	UT	PT	23% 87%	IWC-2500-4(a)	These examinations were performed in May 1989. A PT and UT examination was performed upon the nozzle to shell configuration with no recordable indications identified. The UT examinations were conducted using a 45-degree shear wave transducer. The PT exam was limited due to the nozzle's OD configuration's close proximity to heat exchanger welds 11-RHRHEX-1 and 11-RHRHEX-2 between 1' - 2', 56" - 80" and 26" - 32". The UT examination was performed from the shell side exam was limited due to the nozzle's OD configuration's close proximity to heat exchanger welds 11-RHRHEX-1 and 11-RHRHEX-2 between 52" - 8" clockwise and 26" - 34" clockwise. The total estimated weld length equals approximately 574'. The thickness is approximately 0.988 - 2.6". The total estimated code coverage achieved was approximately 23% for the UT and 87% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
205168	2-3-2	14	4/24/01	RHRHEX	11-RHRHEX-OUT	Nozzle to Shell	C-B	C2.21	29	UT	PT	23.2% 100%	IWC-2500-4(a)	These examinations were performed in April 2001 using approved PDI exam techniques. A PT and UT examination was performed upon the nozzle to shell configuration with no recordable indications identified. The UT examinations were conducted using a 45-degree shear wave transducer and a 60-degree refracted longitudinal wave transducer. The PT exam was limited due to the nozzle's OD configuration's close proximity to heat exchanger welds 11-RHRHEX-1 and 11-RHRHEX-2 and the support lug located on the upstream side of the weld. The UT examination was performed from the shell side exam was limited due to the nozzle's OD configuration's close proximity to heat exchanger welds 11-RHRHEX-1 and 11-RHRHEX-2 between 52" - 8" clockwise and 26" - 34" clockwise. The total estimated weld length equals approximately 574'. The thickness is approximately 0.988 - 2.6". The total estimated code coverage achieved was approximately 23% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

204440	2-1-2	09	3/1/91	BIT	1-BIT-1	Inlet Nozzle to Shell	C-B	C2.21	25	UT	36%	IWC-2500-4(a)	This examination was conducted March 1991. UT exams were completed using a 0-, 45- and 60-degree shear wave transducer with no recordable indications noted. The examination was limited due to the inlet nozzle to head shell configuration. The UT exam was limited due to the nozzle's configuration. The UT exam was performed from the shell side only with no exam able to be performed between 0 - 3/4" from the weld due to the nozzle/weld location. The total estimated weld length equals approximately 43-7/8". The thickness is 2 1/2". The total estimated code coverage achieved was approximately 36% for the UT exam. System leakage tests (VT2) are conducted each period to detect presence of leakage. No leakage has been noted in this area of the weld.	No
214910	2-2-1	10	5/14/92	FW	14-BF-2121-3PL-1	Pipe Lug	C-C	C3.20	34	MT	27%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access between the lug welds and the wall penetration. The yoke used was the smallest size available in the industry at that time. The exam performed included 6 1/2". Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 24 1/2". The total estimated code coverage achieved was approximately 27%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
218050	2-1-1	08	5/12/89	BF	-BF-2111-3PL-1	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1989. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20". Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
218060	2-1-1	08	5/12/89	BF	-BF-2111-3PL-2	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1989. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20". Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

218070	2-1-1	08	5/12/89	BF	-BF-2111-3PL-3	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1989. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20'. Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
218080	2-1-1	08	5/12/89	BF	-BF-2111-3PL-4	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1989. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20'. Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
218090	2-1-1	08	5/12/89	BF	-BF-2111-3PL-5	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1989. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20'. Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

218100	2-1-1	08	5/12/89	BF	-BF-2111-3PL-6	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1988. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20'. Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
218110	2-1-1	08	5/12/89	BF	-BF-2111-3PL-7	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1988. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20'. Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
218120	2-1-1	08	5/12/89	BF	-BF-2111-3PL-8	Pipe Lug	C-C	C3.20	34	MT	67%	IWC-2500-5	These examinations were performed in May 1988. A MT examination was performed upon the pipe lug with no recordable indications identified. The exam was limited due to inadequate access to the backside of the attached lug. This resulted in the 3 accessible sides being examined and partial amount of the remaining side where connected to two adjoining sides. Examination access was restricted due to the close proximity of the pipe and structural steel and the size of the yoke utilized. The yoke used was the smallest size available in the industry at that time. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 20'. Approximately 13.4' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

218130	2-3-1	13	10/15/99	FW	14-BF-2111-3PS-1	Pipe Support	C-C	C3.20	34	MT	32%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent components and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 44'. Approximately 14' was fully examined. The total estimated code coverage achieved was approximately 32%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
223400	2-2-1	10	5/7/92	MS	34-MS-2131-1-PL-3	Pipe Lug	C-C	C3.20	36	MT	75%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the pipe support lug with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 44'. Approximately 33' was fully examined. The total estimated code coverage achieved was approximately 75%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
223800	2-2-1	10	5/7/92	MS	34-MS-2131-1-PL-7	Pipe Lug	C-C	C3.20	36	MT	75%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the pipe support lug with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 44'. Approximately 33' was fully examined. The total estimated code coverage achieved was approximately 75%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
224020	2-2-1	10	5/7/92	MS	34-MS-2131-1-PL-13	Pipe Lug	C-C	C3.20	36	MT	75%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the pipe support lug with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 44'. Approximately 33' was fully examined. The total estimated code coverage achieved was approximately 75%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

224040	2-2-1	10	5/7/92	MS	34-MS-2131-1-PL-17	Pipe Lug	C-C	C3.20	36	MT	75%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the pipe support lug with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 44'. Approximately 33' was fully examined. The total estimated code coverage achieved was approximately 75%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
227900	2-1-2	09	3/12/91	MS	32-MS-2141-2PS-2	Pipe Support	C-C	C3.20	35	MT	50%	IWC-2500-5	These examinations were performed in March 1991. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from instrumentation lines in close proximity to the welds and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. No examination could be performed between 95' - 9' (14') clockwise, 22' - 31' (9'), 43' - 60' (17') and 72' - 82' (10') due to physical restrictions resulting from the instrumentation lines and the lugs. The total estimated weld length equals approximately 100'. Approximately 50' was fully examined. The total estimated code coverage achieved was approximately 50%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
228000	2-3-1	13	10/15/99	MS	32-MS-2141-2PL 1 thru 12	Pipe Lugs	C-C	C3.20	35	MT	65%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent components and the component's configuration. Pipe lug welds 2PL-1, 2PL-5, 2PL-7 and 2PL-11 were not able examined due to the permanent obstruction from the penetration wall. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 156'. Approximately 102' was fully examined. The total estimated code coverage achieved was approximately 65%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
229000	2-3-1	13	10/15/99	MS	32-MS-2131-2PL 1 thru 12	Pipe Lugs	C-C	C3.20	35	MT	65%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent components and the component's configuration. Pipe lug welds 2PL-1, 2PL-5, 2PL-7 and 2PL-11 were not able examined due to the permanent obstruction from the penetration wall. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 156'. Approximately 102' was fully examined. The total estimated code coverage achieved was approximately 65%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

230000	2-1-2	09	3/12/91	MS	32-MS-2121-2PS-2	Pipe Support	C-C	C3.20	35	MT	13%	IWC-2500-5	These examinations were performed in March 1991. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from instrumentation lines in close proximity to the welds and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. Examination could be performed between 29 1/2" to 43" due to physical restrictions resulting from the instrumentation lines and lugs. The total estimated weld length equals approximately 100'. Approximately 13-1/4' was fully examined. The total estimated code coverage achieved was approximately 13%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes-	MEB 3-1
230100	2-3-1	13	10/15/99	MS	32-MS-2121-2PL 1 thru 12	Pipe Lugs	C-C	C3.20	35	MT	65%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent components and the component's configuration. Pipe lug welds 2PL-1, 2PL-5, 2PL-7 and 2PL-11 were not able examined due to the permanent obstruction from the penetration wall. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. Examination could be performed due to physical restrictions resulting from the instrumentation lines and lugs. The total estimated weld length equals approximately 156'. Approximately 102' was fully examined. The total estimated code coverage achieved was approximately 65%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No	
231200	2-3-1	13	10/15/99	MS	32-MS-2111-2PS-2	Pipe Support	C-C	C3.20	35	MT	36%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from instrumentation lines in close proximity to the welds and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. Examination could be performed due to physical restrictions resulting from the instrumentation lines and lugs. The total estimated weld length equals approximately 100'. Approximately 36' was fully examined. The total estimated code coverage achieved was approximately 36%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No	
231300	2-3-1	13	10/15/99	MS	32-MS-2111-2PL 1 thru 12	Pipe Lugs	C-C	C3.20	35	MT	65%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was performed upon the pipe support lugs with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent components and the component's configuration. Pipe lug welds 2PL-1, 2PL-5, 2PL-7 and 2PL-11 were not able examined due to the permanent obstruction from the penetration wall. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. Examination could be performed due to physical restrictions resulting from the instrumentation lines and lugs. The total estimated weld length equals approximately 156'. Approximately 102' was fully examined. The total estimated code coverage achieved was approximately 65%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No	

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

263332	2-3-1	13	10/15/99	RHR	14-RH-2112-7PS-3	Pipe Support	C-C	C3.20	59	PT	67%	IWC-2500-5	These examinations were performed in October 1999. A PT examination was performed upon the pipe support welded attachment with no recordable indications identified. The exam was limited due to a permanent obstruction that exists within 1" of the far side of the examination surface that is adjacent to the penetration wall. The total estimated weld length equals approximately 24'. Approximately 16' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
263334	2-3-1	13	10/15/99	RHR	14-RH-2112-7PS-4	Pipe Support	C-C	C3.20	43	PT	67%	IWC-2500-5	These examinations were performed in October 1999. A PT examination was performed upon the pipe support welded attachment with no recordable indications identified. The exam was limited due to a permanent obstruction that exists within 1" of the far side of the examination surface that is adjacent to the penetration wall. The total estimated weld length equals approximately 24'. Approximately 16' was fully examined. The total estimated code coverage achieved was approximately 67%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
205280	2-3-2	14	4/10/01	CVCS	11-CHG/SI-PMP-1A (1-4)	Integrally Welded Supports	C-C	C3.30	38	PT	73%	IWC-2500-5	These examinations were performed in April 2001 using approved PDI exam techniques. A PT examination was performed upon the integrally attached welded pump lugs with no recordable indications identified. The exam was limited due to a permanently installed obstructions (pump supports) and pump end cap design. The total estimated weld length equals approximately 24'. Approximately 17.5' was fully examined. The total estimated code coverage achieved was approximately 73%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
277900	2-2-1	10	5/20/92	MS	12-MS-167-VS-1	Valve Support	C-C	C3.40	37	MT	82%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the valve support's welded attachments with no recordable indications identified. The exam was limited due to the surrounding support structures. No examinations were able to be performed VS-1 15 - 18' due to the surrounding support structures. The total estimated weld length equals approximately 21'. Approximately 17' was fully examined. The total estimated code coverage achieved was approximately 82%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
277940	2-2-1	10	5/20/92	MS	12-MS-167-VS-1A	Valve Support	C-C	C3.40	37	MT	82%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the valve support's welded attachments with no recordable indications identified. The exam was limited due to the surrounding support structures. No examinations were able to be performed VS-1 15 - 18' due to the surrounding support structures. The total estimated weld length equals approximately 21'. Approximately 17' was fully examined. The total estimated code coverage achieved was approximately 82%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

277960	2-2-1	10	5/20/82	MS	12-MS-167-VS-1B	Valve Support	C-C	C3.40	37	MT	64%	IWC-2500-5	These examinations were performed in May 1992. A MT examination was performed upon the valve support's welded attachments with no recordable indications identified. The exam was limited due to the surrounding support structures. No examinations were able to be performed. VS-1B 18" - 29.5" due to the surrounding support structures. The total estimated weld length equals approximately 21". Approximately 13.5" was fully examined. The total estimated code coverage achieved was approximately 64%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
278140	2-1-1	08	5/4/89	MS	13-MS-167-VS-1A	Valve Support	C-C	C3.40	37	MT	82%	IWC-2500-5	These examinations were performed in May 1989. A MT examination was performed upon the valve support's welded attachments with no recordable indications identified. The exam was limited due to the surrounding support structures. No examinations were able to be performed. VS-1A 15" - 18" due to the surrounding support structures. The total estimated weld length equals approximately 21". Approximately 17" was fully examined. The total estimated code coverage achieved was approximately 82%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
278240	2-1-1	08	5/4/89	MS	13-MS-167-VS-2A	Valve Support	C-C	C3.40	37	MT	82%	IWC-2500-5	These examinations were performed in May 1989. A MT examination was performed upon the valve support's welded attachments with no recordable indications identified. The exam was limited due to the surrounding support structures. No examinations were able to be performed. VS-2A 15" - 19" due to the surrounding support structures. The total estimated weld length equals approximately 21". Approximately 17" was fully examined. The total estimated code coverage achieved was approximately 82%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
278340	2-3-1	13	10/15/99	MS	14-MS-167-VS-1A	Valve Support	C-C	C3.40	37	MT	0%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was attempted to be performed upon the valve support's welded attachments. No examinations could be completed due to an obstruction from the 14 Main Steam Header permanent supports that prevent access to the area of examination. The exam was limited due to the surrounding support structures. The total estimated weld length equals approximately 12". Approximately 0" was fully examined. The total estimated code coverage achieved was approximately 0%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
278440	2-3-1	13	10/15/99	MS	14-MS-167-VS-2A	Valve Support	C-C	C3.40	37	MT	0%	IWC-2500-5	These examinations were performed in October 1999. A MT examination was attempted to be performed upon the valve support's welded attachments. No examinations could be completed due to an obstruction from the 14 Main Steam Header permanent supports that prevented access to the area of examination. The exam was limited due to the surrounding support structures. The total estimated weld length equals approximately 12". Approximately 0" was fully examined. The total estimated code coverage achieved was approximately 0%. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

263422	2-3-1	13	10/20/99	RHR	8-RH-2173-2	Valve to Elbow	C-F-1	A-E<3/8	44	PT	UT	100% 57%	IWC-2500-7	These examinations were performed in October 1999. A PT and UT examination was performed upon the valve to elbow connection configuration with no recordable indications identified. The UT examinations were conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the elbow side due to the OD valve configuration. No scanning could be performed from the valve side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 21'. The thickness is approximately 0.432". The total estimated code coverage achieved was approximately 57% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes	NRC RAI 11/9/88
263616	2-3-1	13	10/29/99	RHR	8-RH-2116-2	Valve to Pipe	C-F-1	A-E<3/8	46	PT	UT	100% 57%	IWC-2500-7	These examinations were performed in October 1999. A PT and UT examination was performed upon the valve to pipe connection configuration with no recordable indications identified. The UT examinations were conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the elbow side due to the OD valve configuration. No scanning could be performed from the valve side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 25'. The thickness is approximately 0.432". The total estimated code coverage achieved was approximately 57% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes	NRC RAI 11/9/88
263620	2-2-3	12	4/8/97	RH	8-RH-2116-4R1	Flange to Valve	C-F-1	A-E<3/8	39	PT	UT	100% 50%	IWC-2500-7	These examinations were performed in April 1997. A PT and UT examination was performed upon the valve to elbow configuration with no recordable indications identified. The UT examinations were conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the flange side only to the extent practical due to the OD valve configuration. No scanning could be performed from the valve side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 27'. The thickness is approximately 0.375". The total estimated code coverage achieved was approximately 50% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No	

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

354640	2-3-1	13	10/20/99	CS	8-CS-2123-46	Valve to Elbow	C-F-1	A-E<3/8	47	PT	UT	100% 50%	IWC-2500-7	These examinations were performed in October 1999. A PT and UT examination was performed upon the valve to elbow configuration with no recordable indications identified. The UT examinations were conducted using a 45 and 70-degree shear wave transducer. The UT examination was performed from the elbow side due to the OD valve configuration. No scanning could be performed from the valve side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 27%. The thickness is approximately 0.375". The total estimated code coverage achieved was approximately 50% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes	NRC RAI 11/9/88
356360	2-3-1	13	10/20/99	CS	8-CS-2114-46	Valve to Tee	C-F-1	A-E<3/8	48	PT	UT	100% 74%	IWC-2500-7	These examinations were performed in October 1999. A PT and UT examination was performed upon the valve to elbow configuration with no recordable indications identified. The UT examinations were conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the tee side due to the OD valve configuration. No scanning could be performed from the valve side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 27%. The thickness is approximately 0.375". The total estimated code coverage achieved was approximately 74% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes	NRC RAI 11/9/88
263110	2-3-2	14	4/20/01	PR	6-PR-2101-13	Pipe to Branch Connection	C-F-1	C5.11	58	PT	UT	100% 57%	IWC-2500-9	These examinations were performed in April 2001 using approved PDI exam techniques. A PT and UT examination was performed upon the valve to tee configuration with no recordable indications identified. The UT examinations were conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the tee side due to the OD valve configuration. No scanning could be performed from the valve side. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 27%. The thickness is approximately 0.375". The total estimated code coverage achieved was approximately 73.5% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No	

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

263304	2-2-2	11	10/19/93	RH	14-RH-2114-18	Flange to Pump	C-F-1	C5.11	40	PT	UT	100% 50%	IWC-2500-7	These examinations were performed in October 1993. A PT and UT examination was performed upon the flange to pump configuration with no recordable indications identified. The UT examination was conducted using a 45-degree shear wave transducer. The UT examination was performed while scanning clockwise and counterclockwise upon the weld and Heat Affected Zone OD configuration. No axial scanning could be performed from the flange or pump side due to the OD configurations. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 44'. The thickness is approximately 1/2". The total estimated code coverage achieved was approximately 50% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
263614	2-3-1	13	10/29/99	RHR	8-RH-2116-1	Pump to Valve	C-F-1	C5.11	45	PT	UT	100% 23%	IWC-2500-7	These examinations were performed in October 1999. A PT and UT examination was performed upon the pump to valve configuration with no recordable indications identified. The UT examination was conducted using a 45-degree shear wave transducer. The UT examination was performed while scanning clockwise and counterclockwise upon the weld and Heat Affected Zone OD valve configuration. No scanning could be performed from the valve or the pump side due to the OD configurations. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 27 1/2'. The thickness is approximately 0.375". The total estimated code coverage achieved was approximately 23% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld. Surface exams are not required to be completed upon this weld per the requirements of ASME XI.	No
264206	2-3-2	14	4/14/01	SJ	6-SJ-2104-4	Safe-End to Nozzle	C-F-1	C5.11	None Available	PT	UT	100% 38%	IWC-2500-7	These examinations were performed in April 2001 using approved PDI exam techniques. A PT and UT examination was performed upon the safe-end to nozzle configuration with no recordable indications identified. The UT examination was conducted using a 45-degree shear wave transducer. The UT examination was performed from the safe-end side. The exam was limited due to the nozzle's OD configuration and adjacent weld (6-SJ-2104-3) that was too close to allow for adequate scanning space. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 21'. The thickness is approximately 1/2". The total estimated code coverage achieved was approximately 38% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

380500	2-3-1	13	10/20/99	CVCS	3-CV-2158-1	Tee to Pipe	C-F-1	C5.21	49	PT	UT	100% 58%	IWC-2500-7	These examinations were performed in October 1999. A PT and UT examination was performed upon the tee to pipe configuration with no recordable indications identified. The UT examination was conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the pipe side. The exam was limited due to the tee's OD configuration. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 11'. The thickness is approximately 0.451". The total estimated code coverage achieved was approximately 58% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
384000	2-1-1	08	4/28/89	SJ	4-SJ-2113-1B	Tee to Valve	C-F-1	C5.21	41	PT	UT	100% 77%	IWC-2500-7	These examinations were performed in April 1989. A PT and UT examination was performed upon the tee to valve configuration with no recordable indications identified. The UT examination was conducted using a 45- and 60-degree shear wave transducer. The UT examination was performed from the pipe side. The exam was limited due to the tee and the valve's OD configuration. No examination was able to be performed from the tee side between 1" - 6" clockwise due to the tee's inner radius. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 13'. The thickness is approximately 1/2". The total estimated code coverage achieved was approximately 77% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
385020	2-3-1	13	10/20/99	SJ	3-SJ-2121-2	Pipe to Valve	C-F-1	C5.21	50	PT	UT	100% 57%	IWC-2500-7	These examinations were performed in October 1999. A PT and UT examination was performed upon the pipe to valve configuration with no recordable indications identified. The UT examination was conducted using a 45- and 70-degree shear wave transducer. The UT examination was performed from the pipe side. The exam was limited due to the valve's OD configuration. The use of a shear wave to investigate the opposite side of a weld has since been proven through the PDI initiative to be unreliable; therefore minimum credit is taken for achieving coverage for the far side of the weld. The total estimated weld length equals approximately 11'. The thickness is approximately 0.451". The total estimated code coverage achieved was approximately 57% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

385040	2-2-3	12	8/15/97	SJ	3-SJ-2121-3R1	Valve to Valve	C-F-1	C5.21	None Available	PT	UT	100% 0%	IWC-2500-7	These examinations were performed in August 1997. A PT examination was performed upon the valve to valve configuration with no recordable indications identified. No UT examinations could be completed due to the valve-to-valve OD configuration that possessed inadequate surface area from which to conduct the exams. The total estimated weld length equals approximately 11'. The thickness is approximately 0.451". The total estimated code coverage achieved was approximately 0% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
385060	2-2-3	12	10/22/97	SJ	3-SJ-2121-4R1	Valve to Valve	C-F-1	C5.21	None Available	PT	UT	100% 0%	IWC-2500-7	These examinations were performed in July 1997. A PT examination was performed upon the valve-to-valve configuration with recordable indications identified initially, after minor surface preparation the component was re-examined and found to be acceptable. No UT examinations could be completed due to the valve-to-valve OD configuration that possessed inadequate surface area from which to conduct the exams. The total estimated weld length equals approximately 11'. The thickness is approximately 0.451". The total estimated code coverage achieved was approximately 0% for the UT and 100% for the PT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
222400	2-2-3	12	11/3/95	MS	34-MS-2131-1	Pipe to Pipe	C-F-2	C5.51	None Available	MT	UT	100% 0%	IWC-2500-7	These examinations were performed in November 1995. A MT and UT examination was attempted. The UT unable to be completed due to the pipe to pipe configuration due to permanently installed structural elements. The total estimated weld length equals approximately 11'. The thickness is approximately 0.451". The total estimated code coverage achieved was approximately 0% for the UT and 100% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes- MEB 3-1
224100	2-2-3	12	11/7/95	MS	34-MS-2131-2	Pipe to Valve	C-F-2	C5.51	53	MT	UT	70% 19%	IWC-2500-7	These examinations were performed in November 1995. A MT examination was performed upon the pipe-to-valve configuration with no recordable indications identified. No UT examination was able to be conducted due to the structural steel located adjacent to the weld area which prevented physical access to weld to allow for scanning. The MT exam was also limited due to permanently installed structural elements and insulation sheathing. These areas were inaccessible for MT due to the frames on either side of the weld did not allow adequate access for the MT equipment to contact the exam surface. Considerations were given for the performance of a PT exam however the examination however the surface could not be adequately cleaned to support examination due to limited physical access. The total estimated weld length equals approximately 106'. The thickness is approximately 2". The total estimated code coverage achieved was approximately 19% for the UT and 70% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes- MEB 3-1

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

224200	2-2-3	12	11/3/95	MS	34-MS-2121-1	Pipe to Pipe	C-F-2	C5.51	54	MT	UT	18% 0%	IWC-2500-7	These examinations were performed in November 1995. A MT examination was performed upon the pipe-to-valve configuration with no recordable indications identified. No UT examination was able to be conducted due to the structural steel located adjacent to the weld area which prevented physical access to weld to allow for scanning. The MT exam was also limited due to permanently installed structural elements. These areas were inaccessible for MT due to the frames on either side of the weld did not allow adequate access for the MT equipment to contact the exam surface. Considerations were given for the performance of a PT exam however the examination however the surface could not be adequately cleaned to support examination due to limited physical access. The total estimated weld length equals approximately 106'. The thickness is approximately 2 3/4". The total estimated code coverage achieved was approximately 0% for the UT and 18% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes-	MEB 3-1
225800	2-2-3	12	11/2/95	MS	34-MS-2111-1	Pipe to Pipe	C-F-2	C5.51	55	MT	UT	50% 0%	IWC-2500-7	These examinations were performed in November 1995. A MT examination was performed upon the pipe-to-valve configuration with no recordable indications identified. No UT examination was able to be conducted due to the structural steel located adjacent to the weld area which prevented physical access to weld to allow for scanning. These areas were inaccessible for MT due to the frames on either side of the weld did not allow adequate access for the MT equipment to contact the exam surface. Considerations were given for the performance of a PT exam however the examination however the surface could not be adequately cleaned to support examination due to limited physical access. The total estimated weld length equals approximately 106'. The thickness is approximately 2 3/4". The total estimated code coverage achieved was approximately 0% for the UT and 50% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes-	MEB 3-1
227500	2-2-3	12	11/4/95	MS	34-MS-2111-2	Pipe to Valve	C-F-2	C5.51	56	MT	UT	50% 58%	IWC-2500-7	These examinations were performed in November 1995. A MT and UT examination was performed upon the elbow to pipe configuration with no recordable indications identified. The UT examination was conducted using a 45-degree shear wave transducer. The UT examination was performed from both sides of the weld. The exam was limited due to the permanently installed structural elements located adjacent to the weld that interfered with scanning area. The MT exam was limited due to inaccessibility and an ability to place the yoke in contact with those areas interfered by structural steel located adjacent to the weld and a platform located above the weld. Considerations were given for the performance of a PT exam however the examination surface could not be adequately cleaned to support examination due to limited physical access. The total estimated weld length equals approximately 106'. The thickness is approximately 2 3/4".	Yes-	MEB 3-1
														The area unable to be examined was approximately between 66-3/4" and 22-1/4" clockwise for UT and 81" to 27" clockwise for MT. The total length of weld examined with MT was 43' and 54' for UT. The total estimated code coverage achieved was approximately 58% for the UT and 50% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.		

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

230500	2-2-3	12	11/7/95	MS	32-MS-2121-3	Pipe to Elbow	C-F-2	C5.51	52	MT	UT	87% 83%	IWC-2500-7	These examinations were performed in November 1995. A MT and UT examination was performed upon the pipe to elbow configuration with no recordable indications identified. The UT examination was conducted using a 45-degree shear wave transducer. The UT examination was performed from both sides of the weld. The exam was limited between 68" - 85" due to permanently installed structural steel I-Beam supports that interfered with scanning and the exam areas. The MT exam was limited due to inaccessibility and an ability to place the yoke in contact with those areas interfered by structural steel located adjacent to the the weld and a platform allocated above the weld. Considerations were given for the performance of a PT exam however the examination surface could not be adequately cleaned to support examination due to limited physical access. The total estimated weld length equals approximately 100'. The thickness is approximately 2 1/4". The total estimated code coverage achieved was approximately 83% for the UT and 87% for the MT exam.	Yes-	MEB 3-1
														System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.		
230600	2-2-3	12	11/7/95	MS	32-MS-2121-4	Elbow to Pipe	C-F-2	C5.51	51	MT	UT	48% 81%	IWC-2500-7	These examinations were performed in November 1995. A MT and UT examination was performed upon the pipe to elbow configuration with no recordable indications identified. The UT examination was conducted using a 45-degree shear wave transducer. The UT examination was performed from both sides of the weld. The exam was limited between 75" to 30" clockwise and 12 - 30" for UT due to permanently installed structural steel I-Beam supports within 1/2" of the weld and interfering with the exam area. The MT exam was limited due to inaccessibility and an ability to place the yoke in contact with those areas interfered by structural steel located adjacent to the weld and a platform allocated above the weld. Considerations were given for the performance of a PT exam however the examination surface could not be adequately cleaned to support examination due to limited physical access. The total estimated weld length equals approximately 100'. The thickness is approximately 2 1/4".	Yes-	MEB 3-1
														The total estimated code coverage achieved was approximately 81% for the UT and 48% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.		
231800	2-2-3	12	10/31/95	MS	32-MS-2111-4	Elbow to Pipe	C-F-2	C5.51	42 (No sketch or photo of restriction exists)	MT	UT	100% 61%	IWC-2500-7	These examinations were performed in November 1995. A MT and UT examination was performed upon the pipe to elbow configuration with no recordable indications identified. The UT examination was conducted using a 45-degree shear wave transducer. The UT examination was performed from both sides of the weld. The exam was limited between 78" to 30" clockwise and 12-30" for UT due to permanently installed structural steel I-Beam pipe whip restraint being located within 1/2" of the weld and interfering with the exam area. The total estimated weld length equals approximately 100'. The thickness is approximately 2 1/4". The total estimated UT exam code coverage achieved was approximately 61% and 100% for the MT exam. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes-	MEB 3-1

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

242000	2-2-1	10	5/19/92	MS	8-MS-2141-1	Weldolet to Elbow	C-F-2	C5.51	60	MT	UT	68% 100%	IWC-2500-7	These examinations were performed in May 1992. A UT and MT examination was performed upon the weldolet to elbow pipe weld with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 27'. No MT examination could be performed between 24" to 5.5' clockwise. Approximately 18.5' was fully examined. The total estimated code coverage achieved was approximately 68%. 100% of the code required coverage was achieved for the UT exam with no recordable indications identified. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
243500	2-2-1	10	5/19/92	MS	8-MS-2124-2	Elbow to Valve	C-F-2	C5.51	61	MT	UT	57% 100%	IWC-2500-7	These examinations were performed in May 1992. A UT and MT examination was performed upon the weldolet to elbow pipe weld with no recordable indications identified. The MT exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. Considerations were given for PT examination however the surface of the carbon steel could not be adequately cleaned to support surface cleanliness needs for PT examination. The total estimated weld length equals approximately 27'. No examination was able to be performed between 2'-1.4'. Approximately 15.25' was fully examined. The total estimated code coverage achieved was approximately 57%. 100% of the code required coverage was achieved for the UT exam with no recordable indications identified. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	No
229480	2-2-3	12	11/3/95	MS	32-MS-2131-4LU-O	Piping Longseam	C-F-2	C5.52	51	MT	UT	70% 100%	IWC-2500-7	These examinations were performed in November 1995. A MT and UT examination was performed upon the pipe weld with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. The total estimated weld thickness equals approximately 2'. Approximately 5' should have been examined however due to the interference caused by the whip restraint only 3.0' was fully examined. The total estimated code coverage achieved was approximately 65%. PSEG Nuclear had invoked Code Case N-524 pertaining to piping longseams and only inspected that area adjacent to the circumferential weld with no indications noted. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes- MEB 3-1

Table II
Relief Request S1-RR-C01
Salem Unit 1 - 2nd Inservice Inspection Ten-Year NDE Exam Limitations

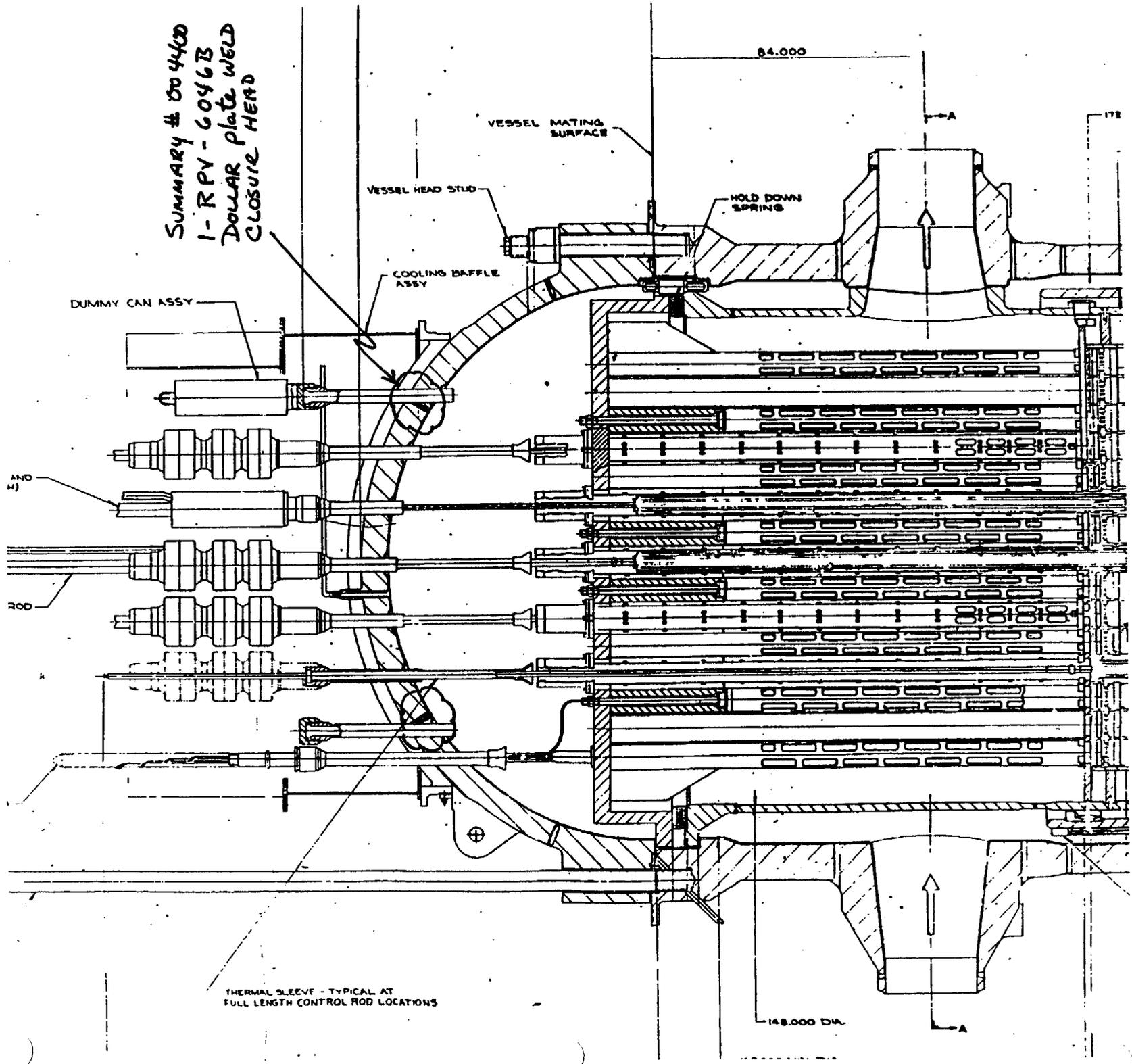
231720	2-2-3	12	11/3/95	MS	32-MS-2131-3LD-I	Piping Longseam	C-F-2	C5.52	62	MT	UT	65% 100%	IWC-2500-7	These examinations were performed in November 1995. A MTand UT examination was performed upon the pipe weld with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. The total estimated weld thickness equals approximately 2". Approximately 5" should have been examined however due to the interference caused by the whip restraint only 3.5" was fully examined. The total estimated code coverage achieved was approximately 70%. PSEG Nuclear had invoked Code Case N-524 pertaining to piping longseams and only inspected that area adjacent to the circumferential weld with no indications noted. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes-	MEB 3-1
231760	2-2-3	12	11/14/95	MS	32-MS-2111-4LU-I	Piping Longseam	C-F-2	C5.52	57	MT	UT	0% 100%	IWC-2500-7	These examinations were performed in November 1995. A MTand UT examination was performed upon the pipe weld with no recordable indications identified. The exam was limited due to inadequate access resulting from adjacent supports structural steel and the component's configuration. The total estimated weld thickness equals approximately 2". Approximately 5" should have been examined however due to the interference caused by the whip restraint only a singular direction of magnetization was used therefore no credit could be taken without having conducted the exam in two directions. No credit could be fully taken due to the whip restraint completely covering the weld and not allowing. The total estimated code coverage achieved was approximately 0%. PSEG Nuclear had invoked Code Case N-524 pertaining to piping longseams and only inspected that area adjacent to the circumferential weld with no indications noted by scanning on top of the weld and accessible surfaces adjacent to the weld. System leakage tests (VT2) are conducted at the conclusion of each outage to detect presence of leakage. No leakage has been noted in this area of the weld.	Yes-	MEB 3-1

III. Appendix A

Sketch No	Pages
1	1-5
2	1-5
3	1-4
4	1-3
5	1
6	1
7	1
8	1-5
9	1-2
10	1-2
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1-13
20	1-2
21	1
22	1
23	1
24	1
25	1-10
26	1
27	1
28	1-5 & 5A
29	1-8
30	1-4 & 4A
31	1-2
32	1-3

Sketch No	Pages
33	1
34	1-4
35	1-5
36	1-4
37	1-5
38	1
39	1
40	1
41	1-2
42	1
43	1
44	1-2
45	1-2
46	1-2
47	1-2
48	1-2
49	1-2
50	1-2
51	1-4
52	1-3
53	1-2
54	1-2
55	1-2
56	1-2
57	1
58	1
59	1
60	1-2
61	1-2
62	1-2

OUTSTANDING CHANGES MUST BE ATTACHED FOR WORKING COPY
VTD 117627 004 1 Printed 20010107

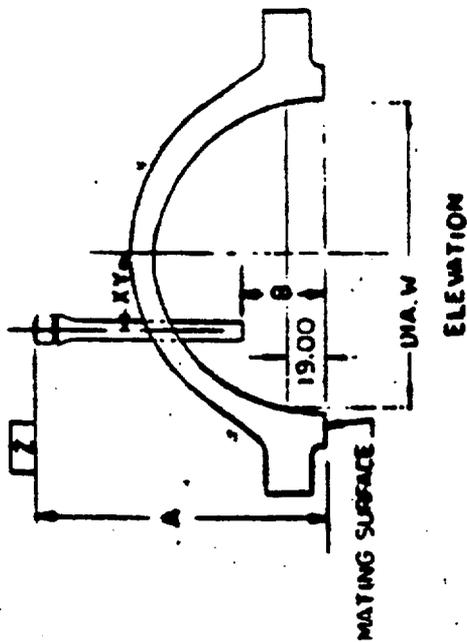
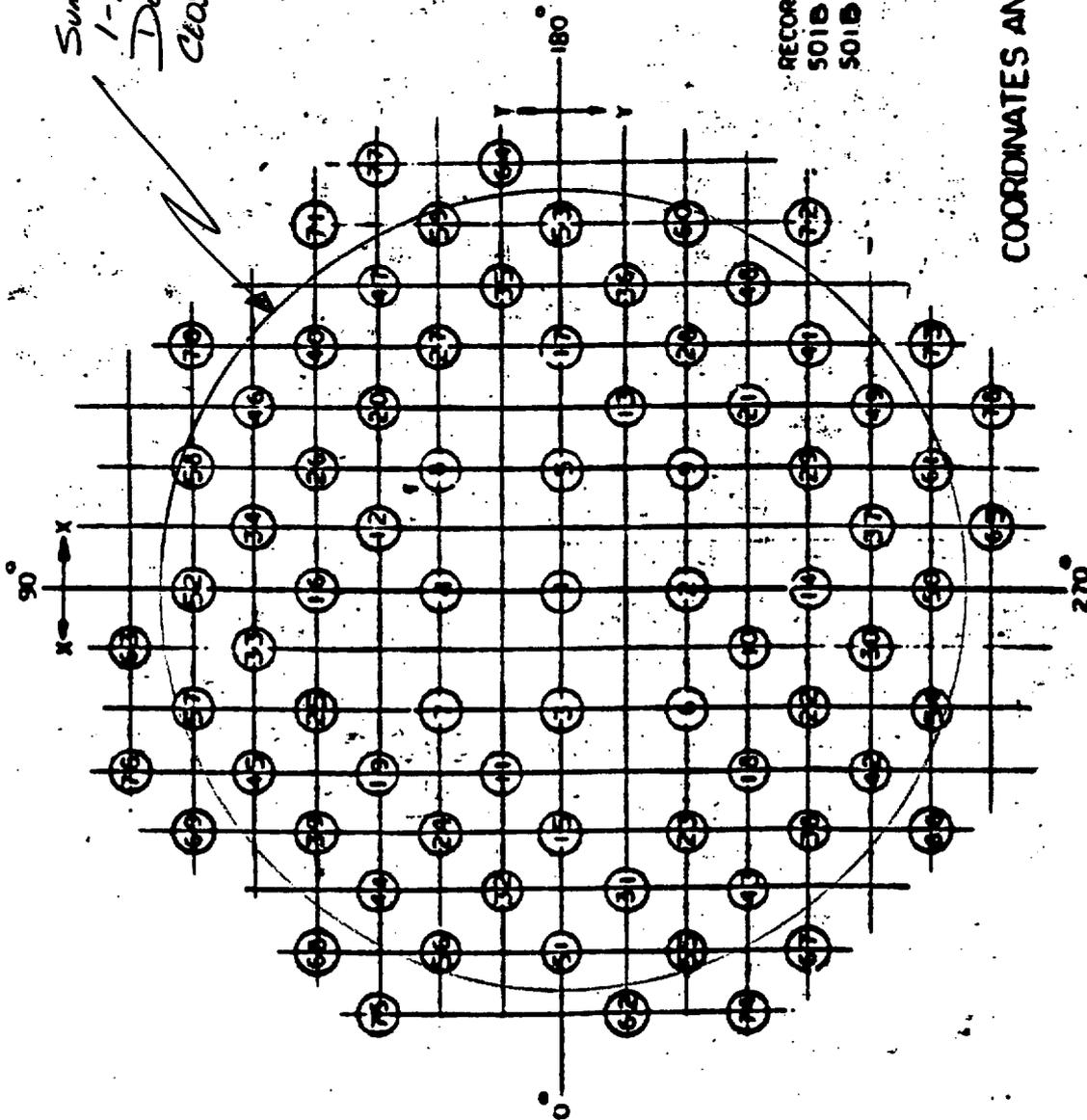


Sketch # 1
1/25

Sketch # 1
285

0-180
50-270

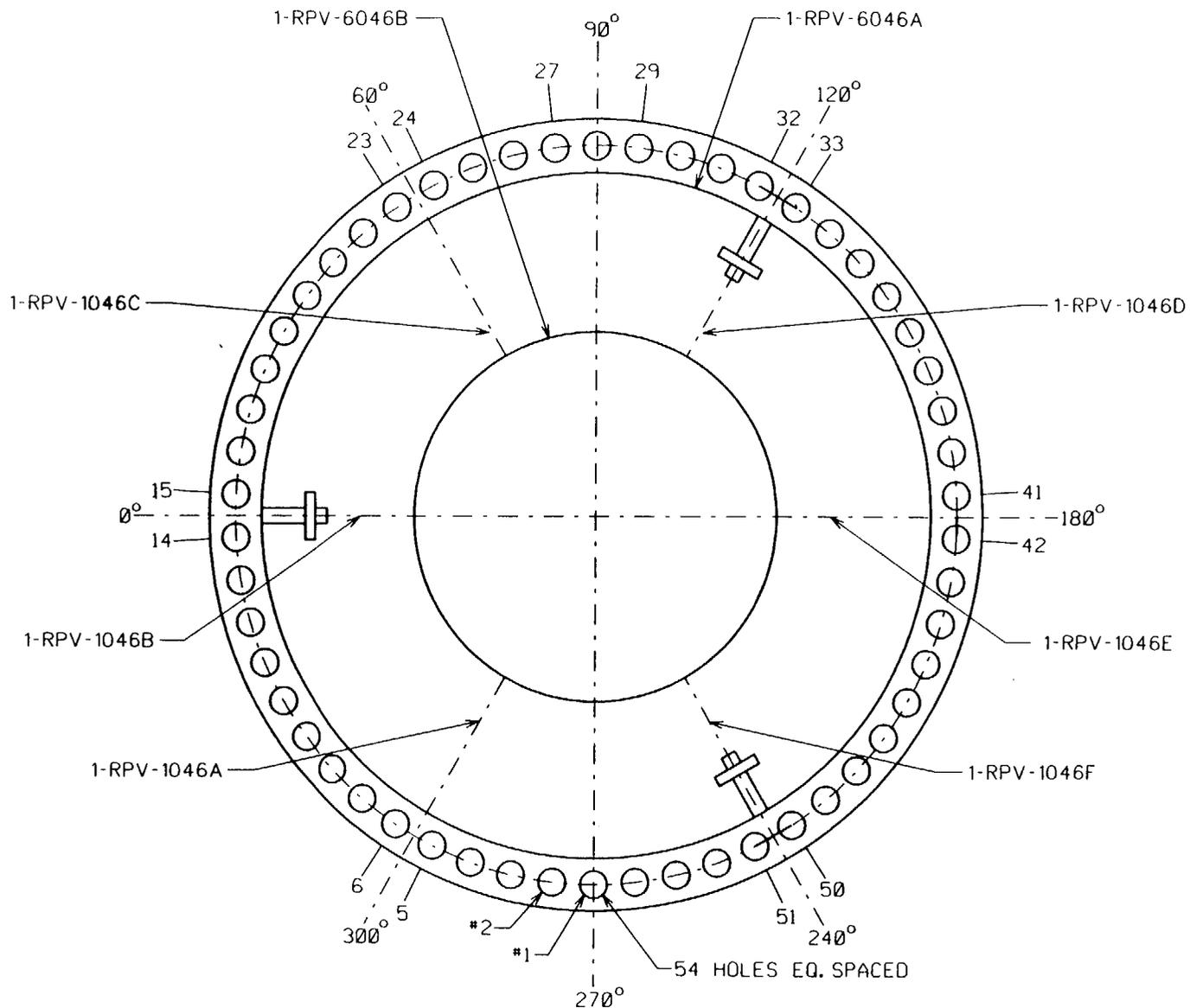
Summary # 00440
1-RPV-6046B
Dollar plate weld
Closure Head



RECORD DATA ON
501B148
501B149

COORDINATES AND ELEVATION OF CLOSURE HEAD PENETRATI

SH. 4 FIG



REACTOR PRESSURE VESSEL CLOSURE HEAD LAYOUT

A-3052 229

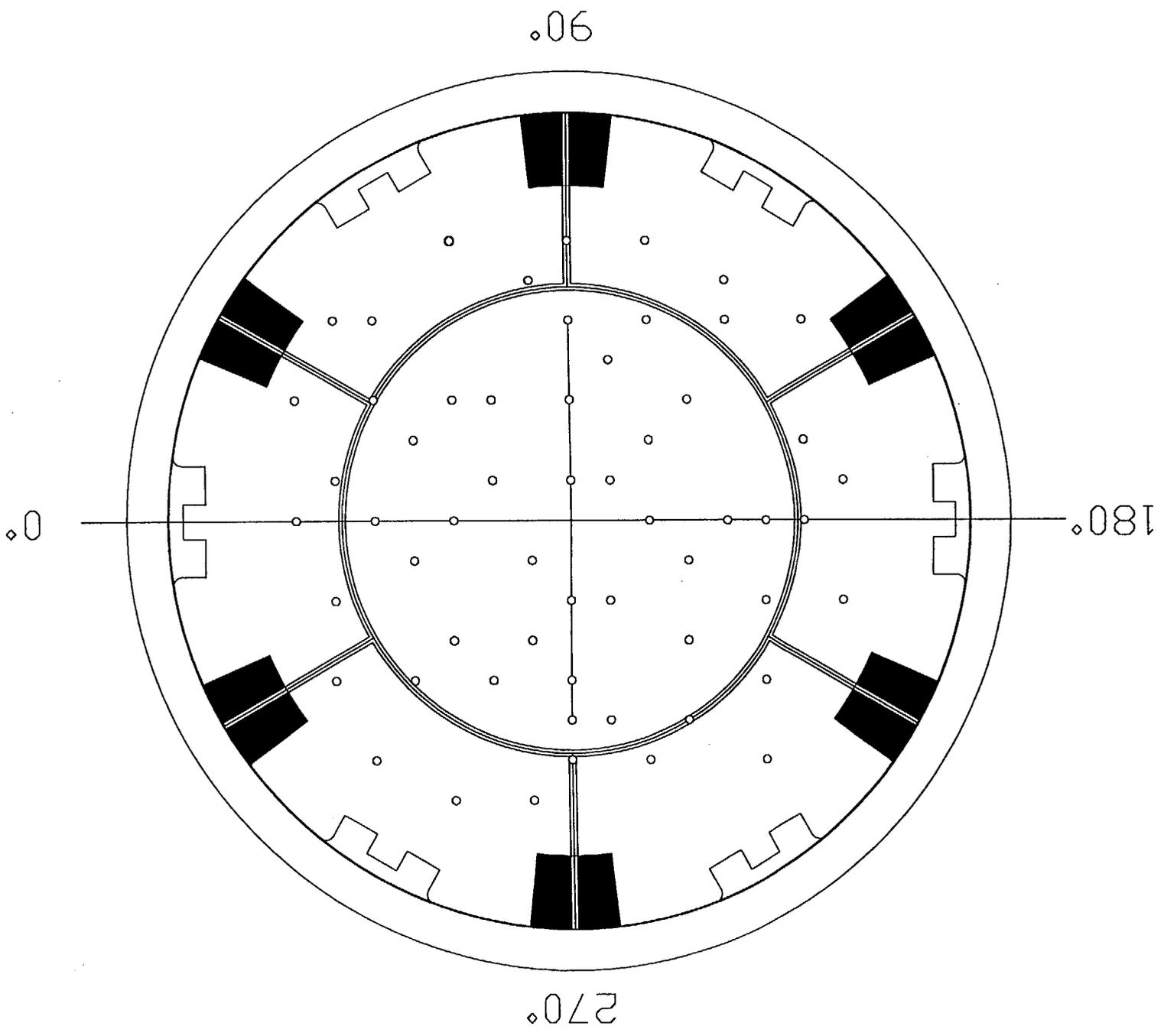
Sketch #1

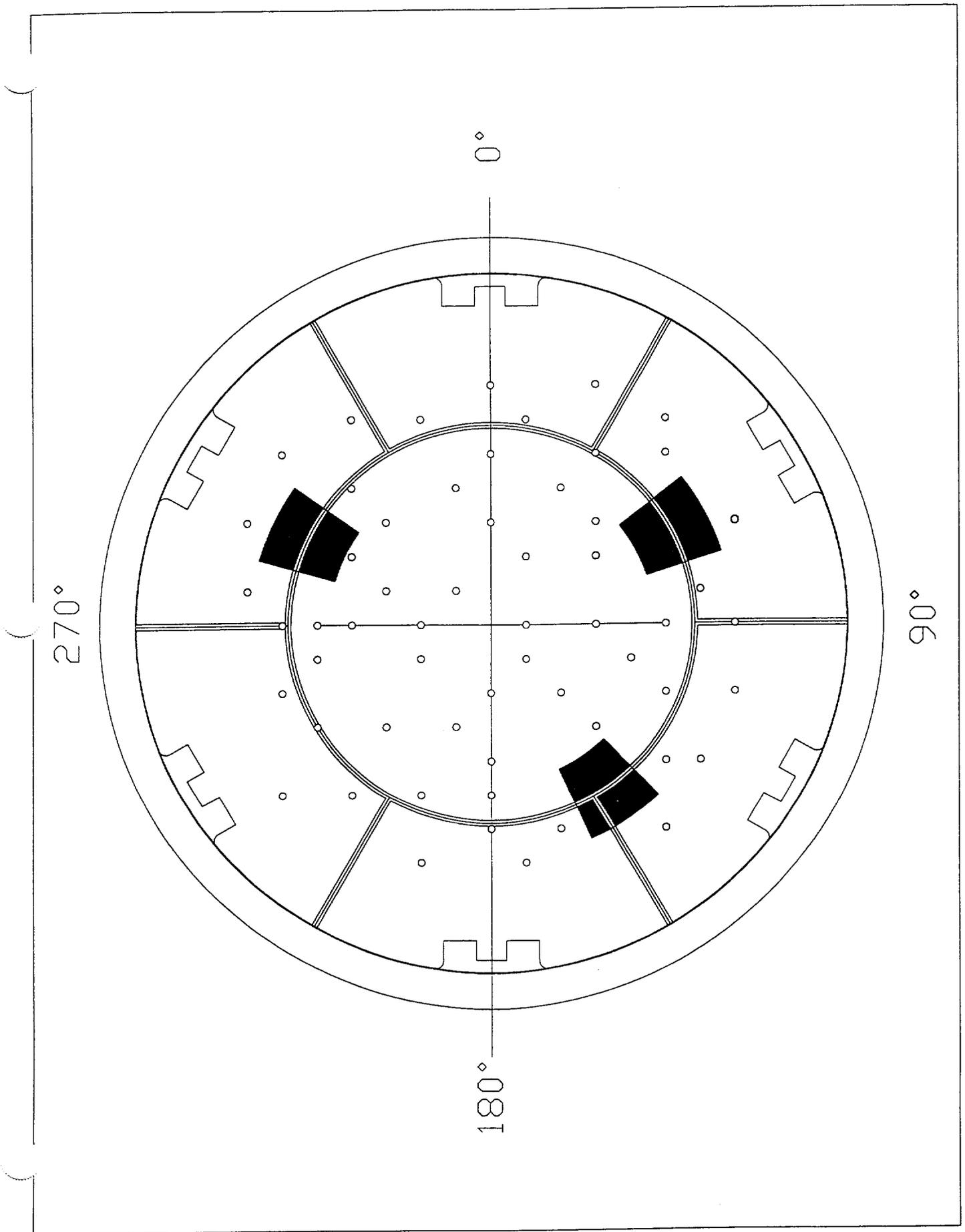
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE ONLY BY CAED		
1		REVISED PER ORDER No 80008418
REV.	DATE	DESCRIPTION

PSEG Nuclear, LLC
 SALEM NUCLEAR GENERATING STATION
 WELD IDENTIFICATION FIGURE

FIGURE: A-2	REVISION: 1
SYSTEM: REACTOR PRESSURE VESSEL CLOSURE HEAD LAYOUT	
LINE: N/A	
THIRD 10 YEAR INSPECTION INTERVAL	

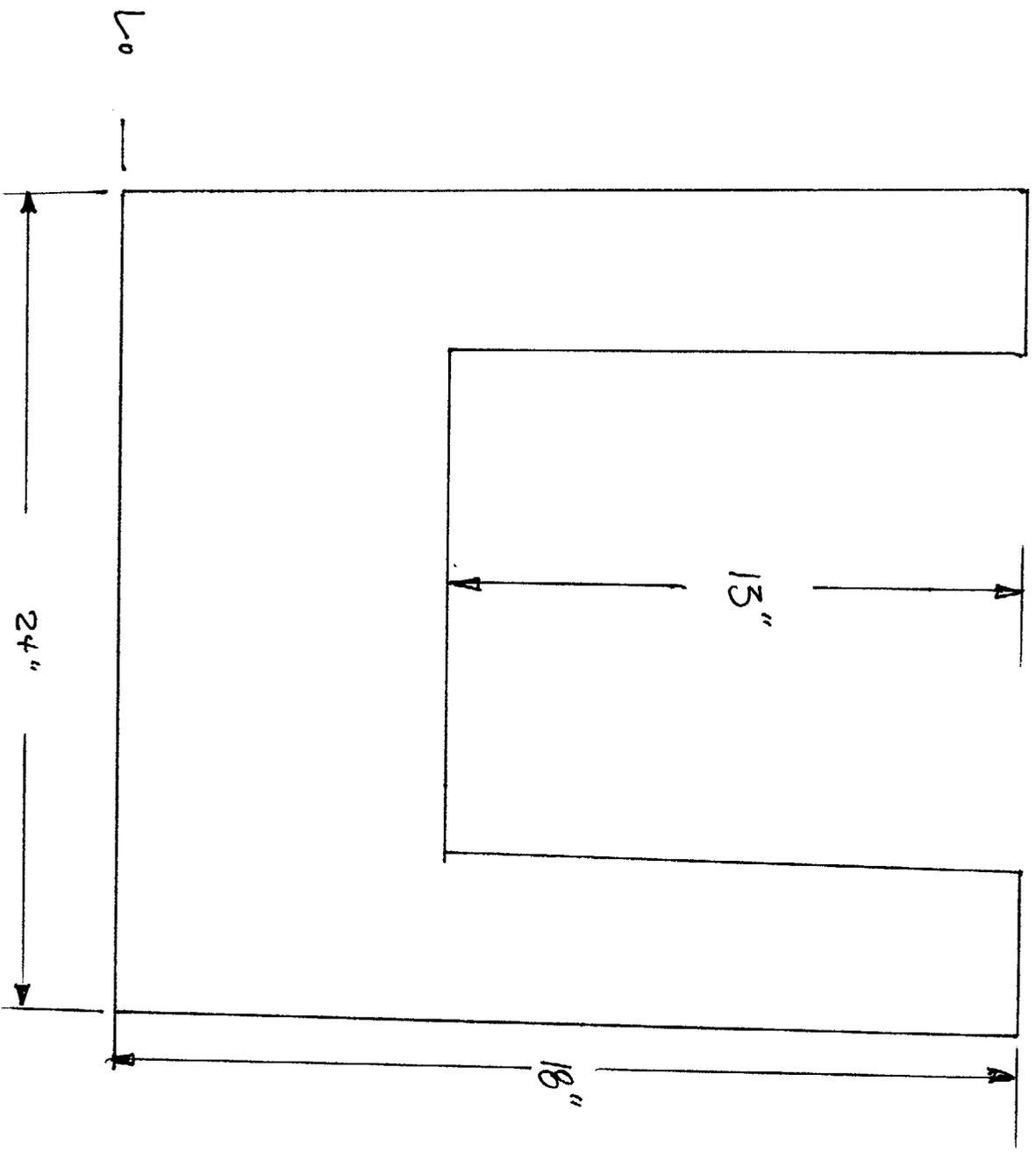
SKETCH #1
5/28/5





Sketch
#1
585

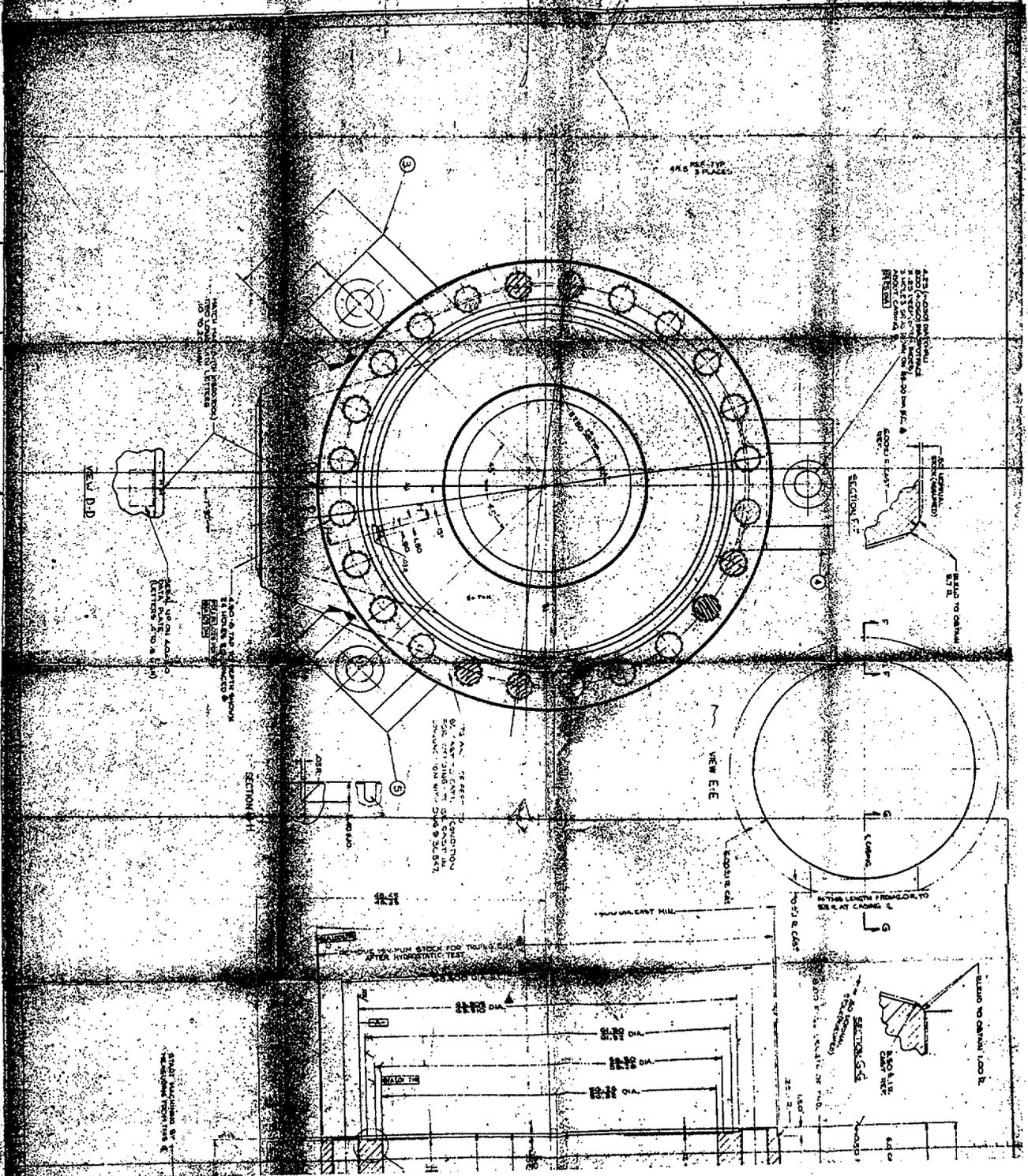
RCP Integral Welded
Attachment



110"

Sketch 2
19 5

0181200



1/8" Thick Stainless Steel

Page 2 of 105142

Sketch 2
248 5

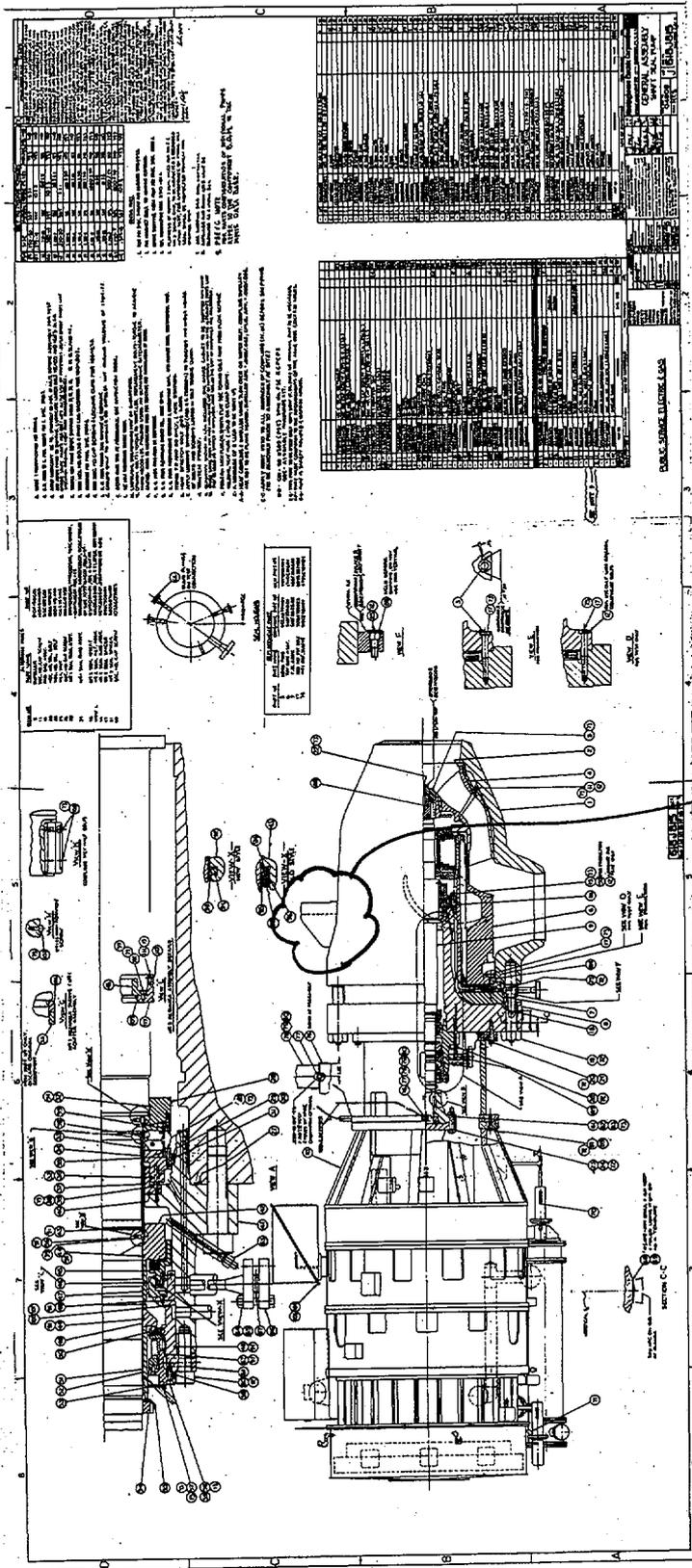
Sketch 2
38
5

OUTSTANDING CHANGES MUST BE ATTACHED FOR WORKING COPY
VTD 108569 000 7 Printed 20020710

NOTE: 1. SEE 6
2. SEE 7
3. SEE 8
4. SEE 9
5. SEE 10
6. SEE 11
7. SEE 12
8. SEE 13
9. SEE 14
10. SEE 15
11. SEE 16
12. SEE 17
13. SEE 18
14. SEE 19
15. SEE 20
16. SEE 21
17. SEE 22
18. SEE 23
19. SEE 24
20. SEE 25
21. SEE 26
22. SEE 27
23. SEE 28
24. SEE 29
25. SEE 30
26. SEE 31
27. SEE 32
28. SEE 33
29. SEE 34
30. SEE 35
31. SEE 36
32. SEE 37
33. SEE 38
34. SEE 39
35. SEE 40
36. SEE 41
37. SEE 42
38. SEE 43
39. SEE 44
40. SEE 45
41. SEE 46
42. SEE 47
43. SEE 48
44. SEE 49
45. SEE 50
46. SEE 51
47. SEE 52
48. SEE 53
49. SEE 54
50. SEE 55
51. SEE 56
52. SEE 57
53. SEE 58
54. SEE 59
55. SEE 60
56. SEE 61
57. SEE 62
58. SEE 63
59. SEE 64
60. SEE 65
61. SEE 66
62. SEE 67
63. SEE 68
64. SEE 69
65. SEE 70
66. SEE 71
67. SEE 72
68. SEE 73
69. SEE 74
70. SEE 75
71. SEE 76
72. SEE 77
73. SEE 78
74. SEE 79
75. SEE 80
76. SEE 81
77. SEE 82
78. SEE 83
79. SEE 84
80. SEE 85
81. SEE 86
82. SEE 87
83. SEE 88
84. SEE 89
85. SEE 90
86. SEE 91
87. SEE 92
88. SEE 93
89. SEE 94
90. SEE 95
91. SEE 96
92. SEE 97
93. SEE 98
94. SEE 99
95. SEE 100

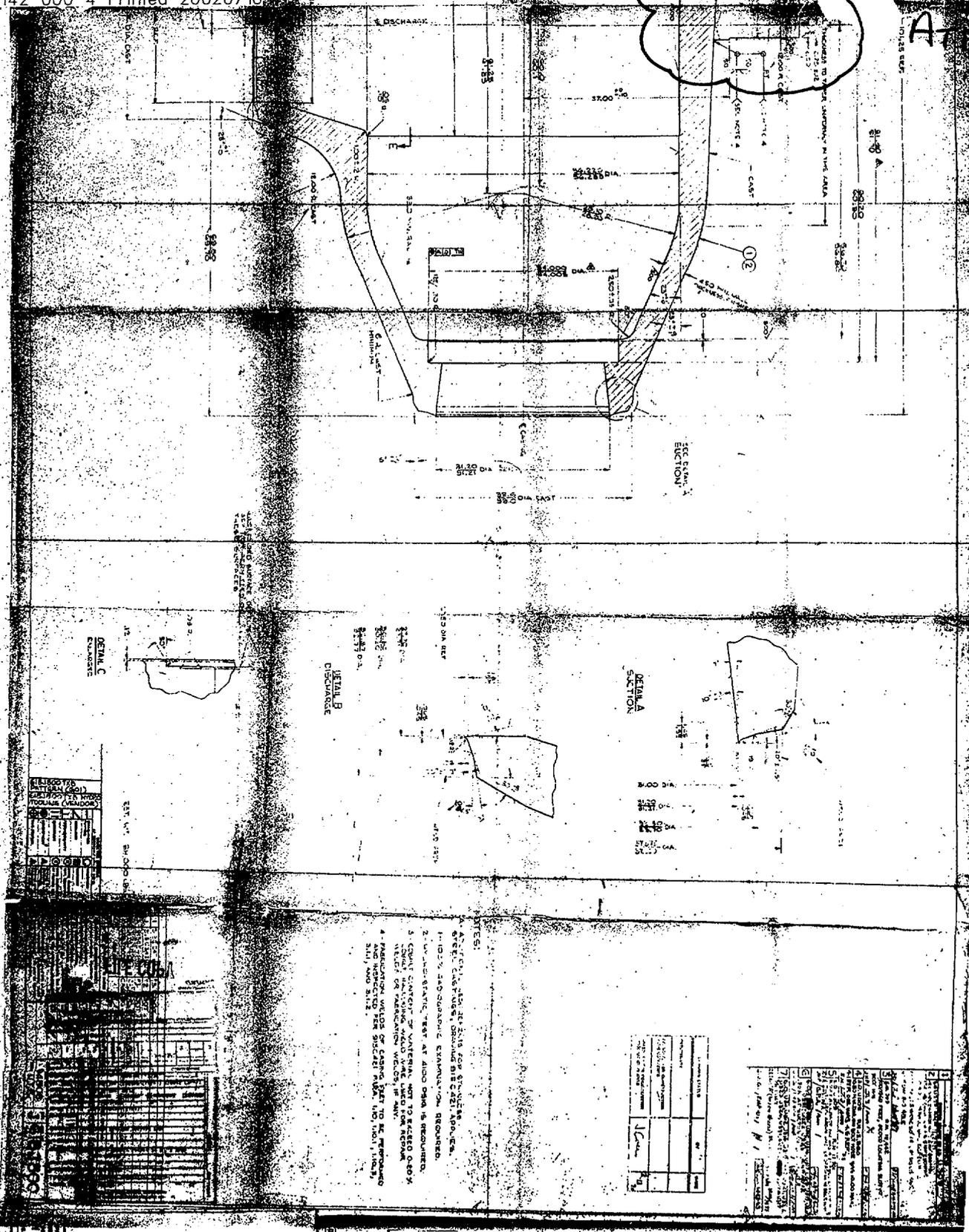
Best Available Copy

7	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----



Tump Support Attachment

Pump
 Support
 Attachment



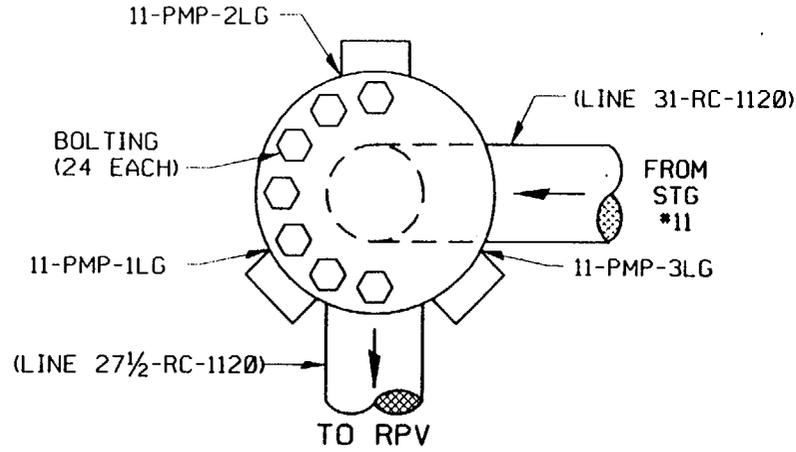
- NOTES:
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED.

NO.	DESCRIPTION	DATE	BY	CHECKED

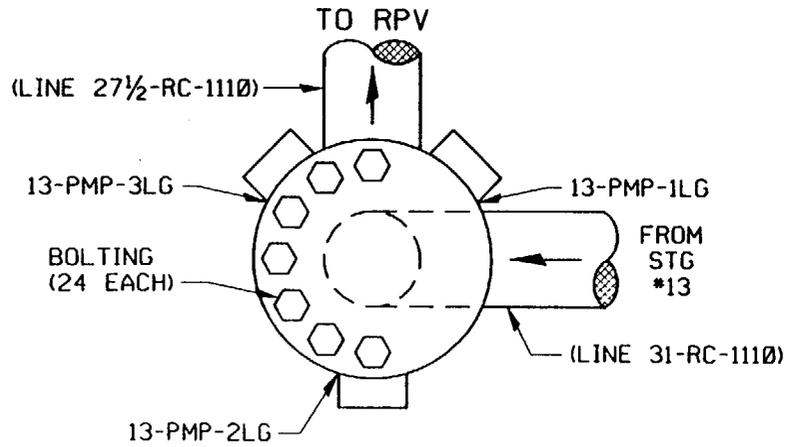
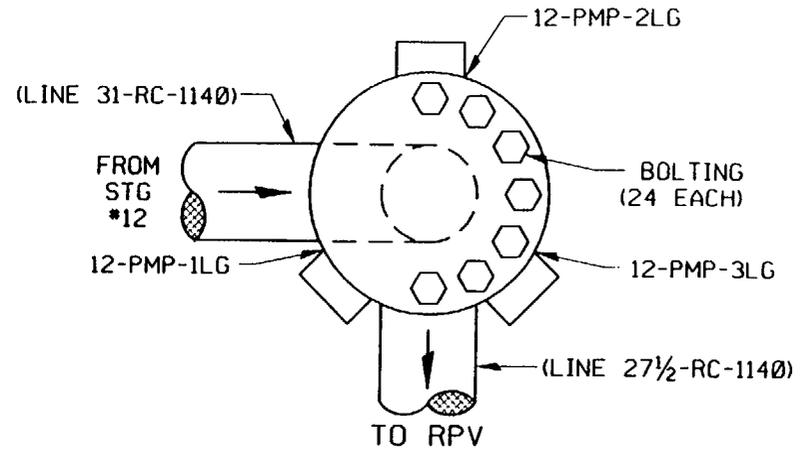
NO.	DESCRIPTION	DATE	BY	CHECKED

Sketch 2
 48 5

PUMP No. 11

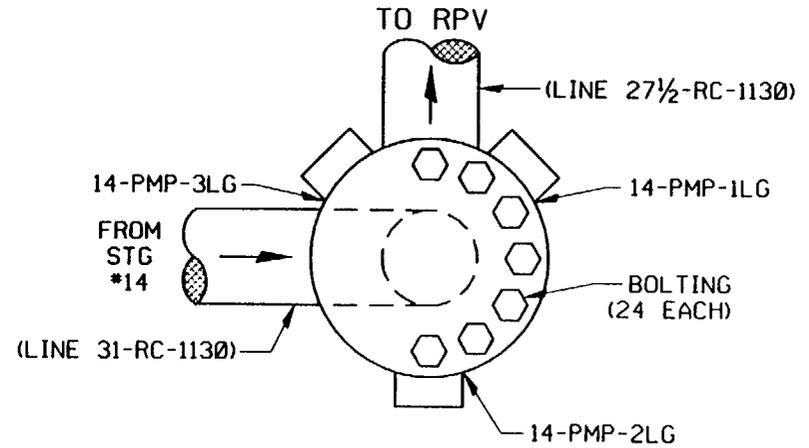


PUMP No. 12



PUMP No. 13

(NOTE: ALL TOP VIEWS)



PUMP No. 14

REACTOR COOLANT PUMPS

*Sketch 2
ps-gjs*

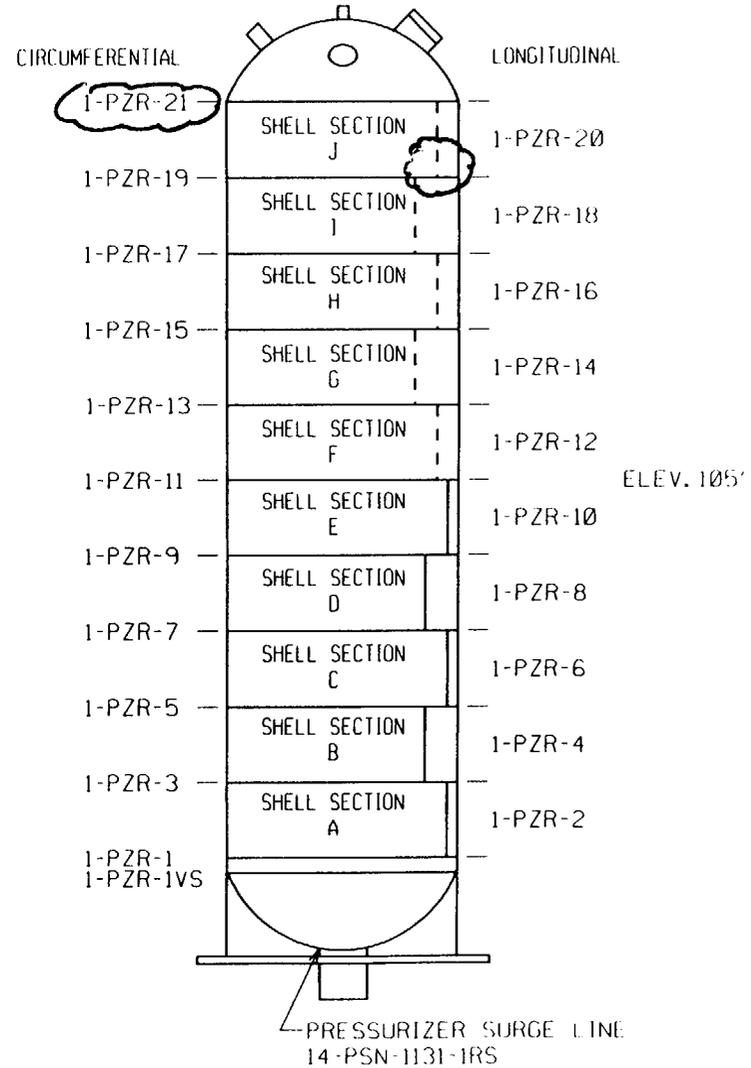
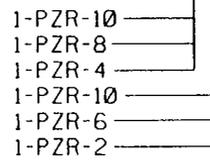
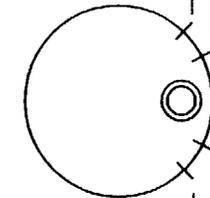
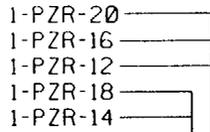
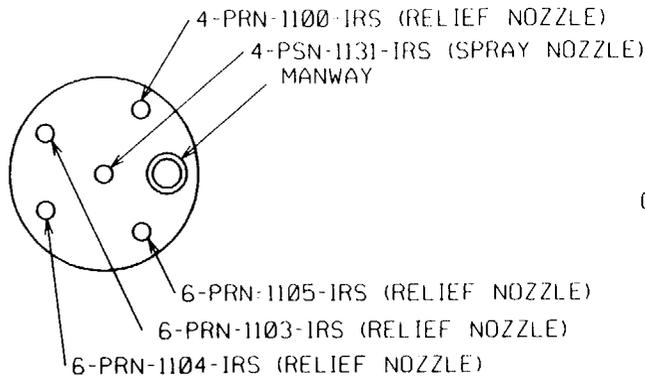
ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE ONLY BY CAED

PSEG Nuclear, LLC
SALEM NUCLEAR GENERATING STATION
WELD IDENTIFICATION FIGURE

FIGURE: A-98 REVISION: 1
SYSTEM: REACTOR COOLANT PUMPS

LINE: N/A

REVISED PER ORDER No. 80008418.



A 3052 231

Sketch # 3
1964

ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE ONLY BY CAED		
REV.	DATE	DESCRIPTION
1		REVISED PER ORDER No 80008418.

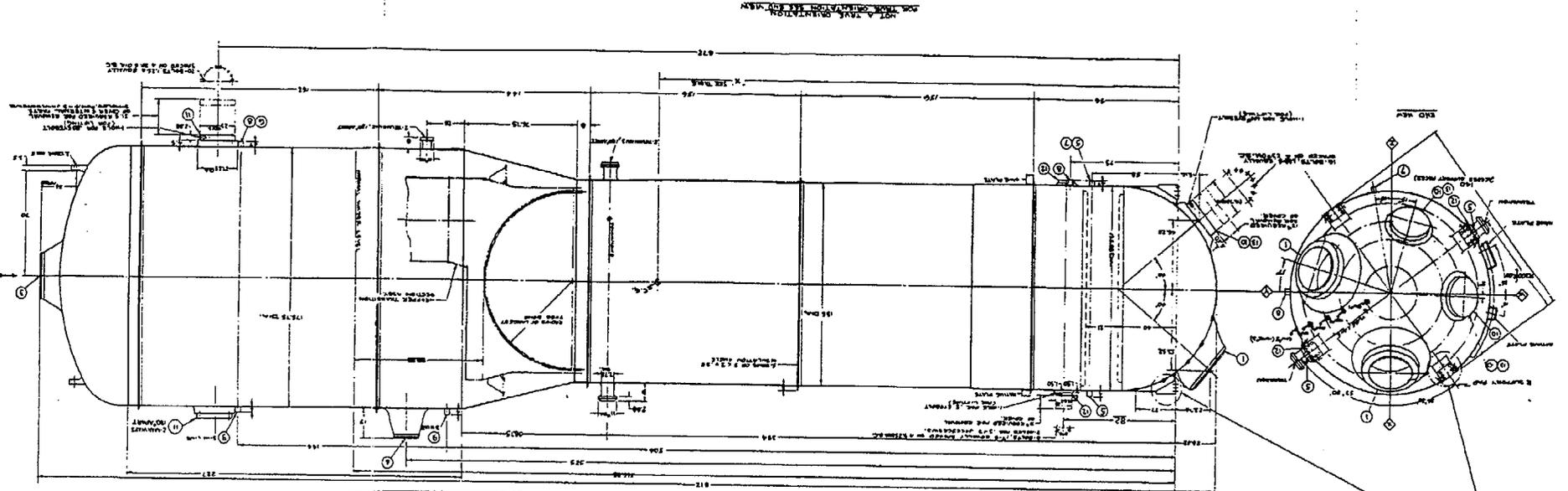
PSEG Nuclear, LLC
SALEM NUCLEAR GENERATING STATION
WELD IDENTIFICATION FIGURE

FIGURE: A 3	REVISION: 1
SYSTEM: PRESSURIZER	
LINE: N/A	
THIRD 10 YEAR INSPECTION PERIOD	

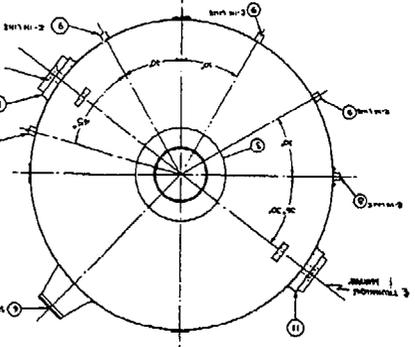
OUTSTANDING CHANGES MUST BE ATTACHED FOR WORKING COPY
 VTD 301109 000 12 Printed 20020710

FIGURE 1-1 - Outline

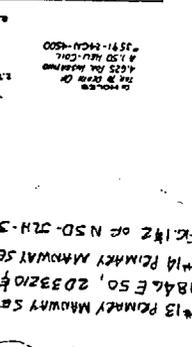
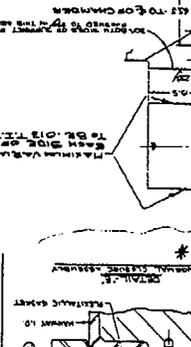
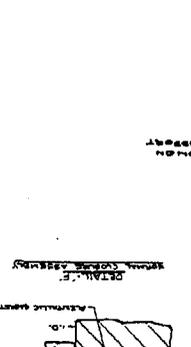
Sketch #4
 183



SEE ADDENDA



NOTE: DO NOT WELD AND CAP SCREW OR ALLOW
 NOT TO REMAIN OPEN FOR TYPICAL 3/16" C
 CLOSURE DISASSEMBLY METHOD.
 NOTE: RISE TO REMAIN MAINTAIN FOR ALTERNATE
 CLOSURE DISASSEMBLY METHOD.
 NOTE: RISE TO REMAIN MAINTAIN FOR ALTERNATE
 CLOSURE DISASSEMBLY METHOD.



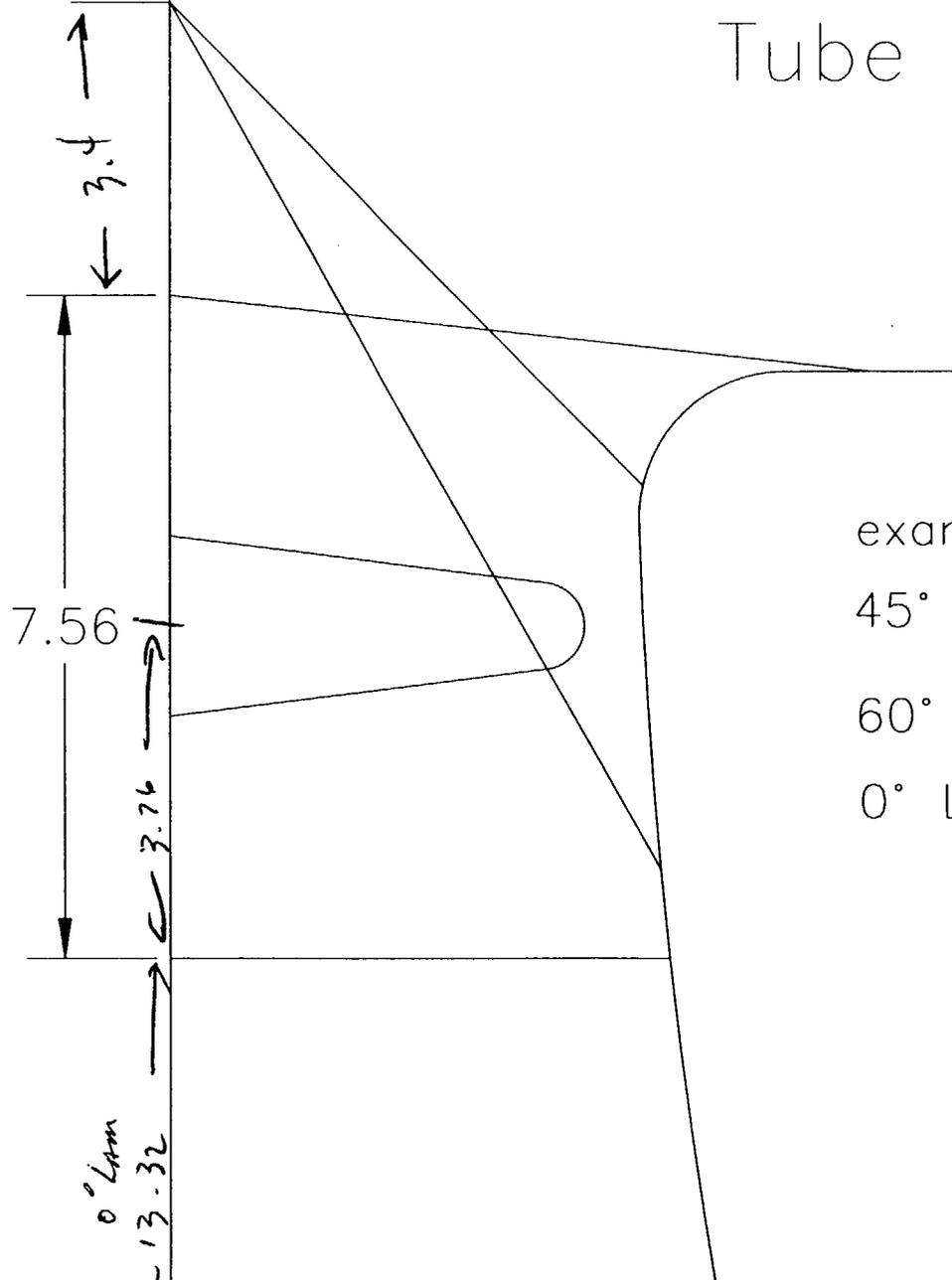
*FOR #13 POINTY MAINTAIN SEE: 184E50, 203210 & 203211
 *FOR #14 POINTY MAINTAIN SEE: FK1#2 OF NSD-574-3468

NO.	REVISION	DATE	BY	CHKD.	REMARKS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					

NOT A TANK ORIENTATION

Lower Head
to
Tube Sheet

UT thickness
5.5"

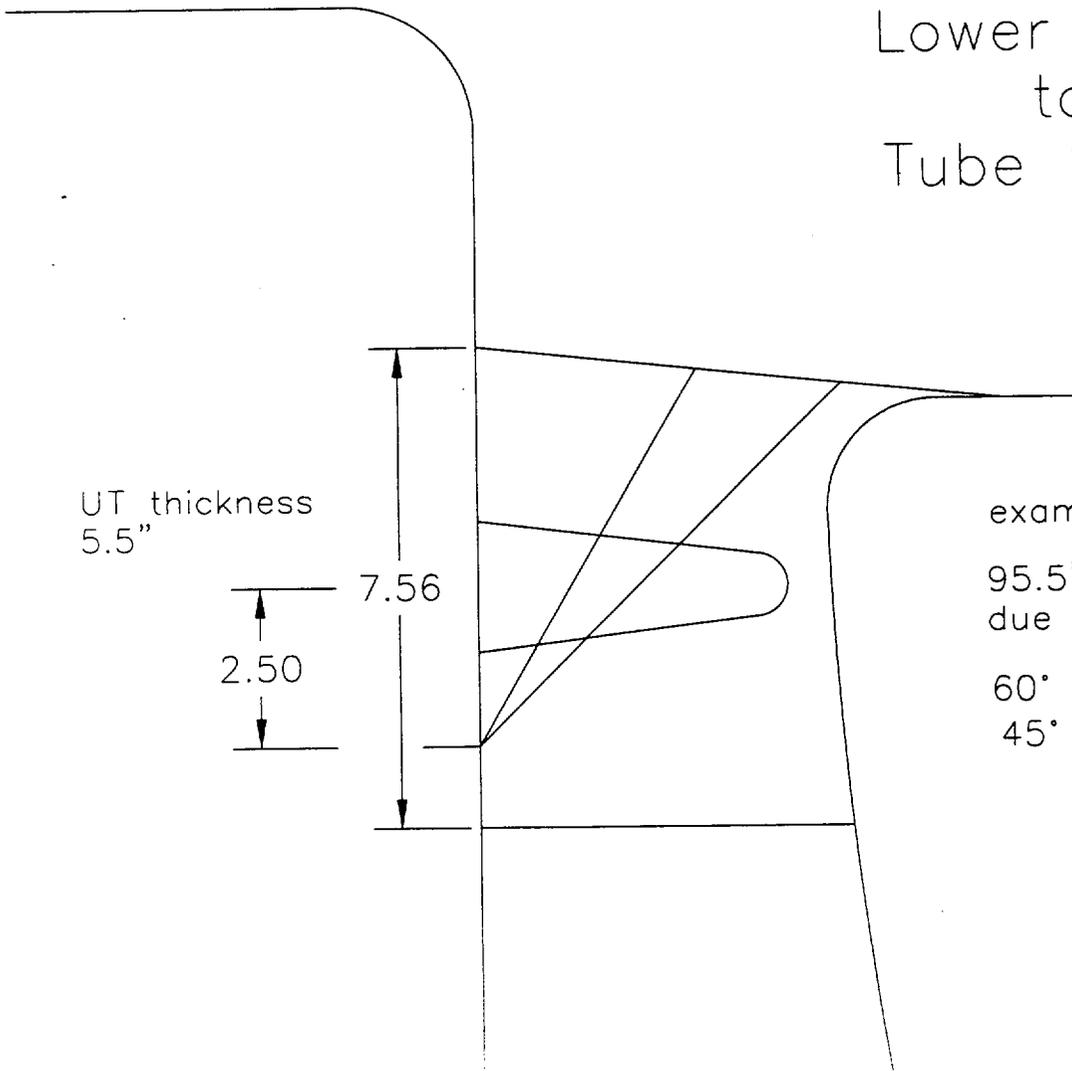


exam vol = 42.04sq"
45° limited = 2.75sq"
60° limited = 11.37sq"
0° Lam' and DAC no limitation

SKETCH #4
293

0° Lam
-13.32

Lower Head
to
Tube Sheet



UT thickness
5.5"

7.56
2.50

exam vol = 42.04sq"
95.5" in length not exam
due to supprotts.
60° limited = 31.31sq"
45° limited = 24.22sq"



PROFILE AND THICKNESS

Exam Date: 04/14/01

Summary No.: 023400

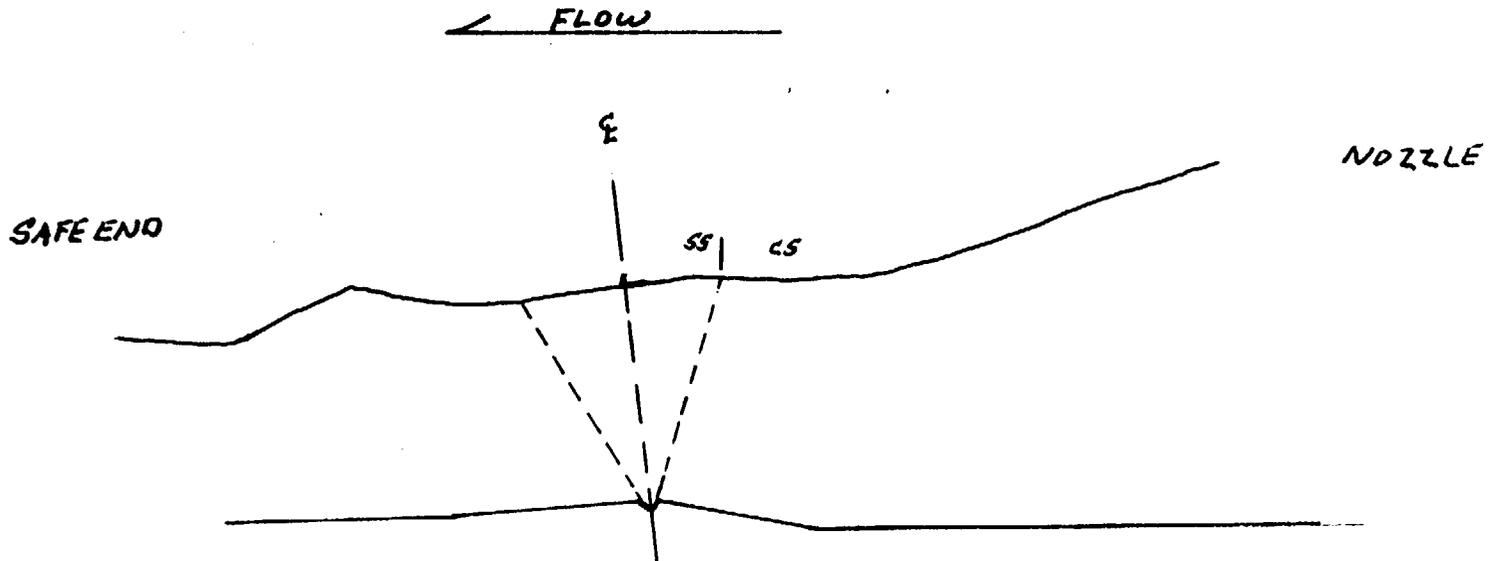
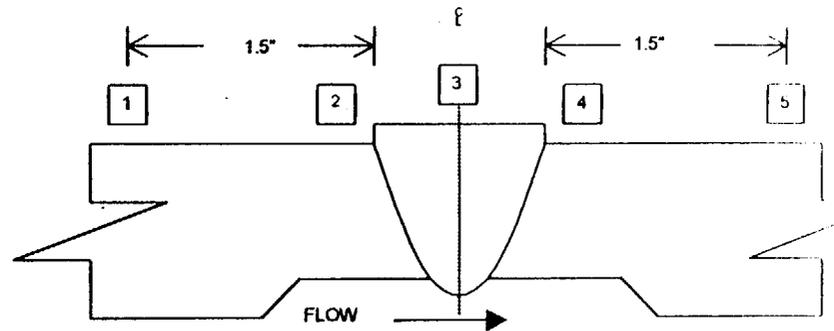
Site: Salem Unit 1, RFO 14

Examination Method: UT

System: Pressure Relief System

Identification: 6-PR-1104-1

POSITION	0	90	180	270	
1	N/A	N/A	N/A	N/A	CROWN HEIGHT: <u>Flush</u>
2	1.30"	N/A	N/A	N/A	CROWN WIDTH: <u>1.1"</u>
3	1.20"	N/A	N/A	N/A	NOM DIAMETER: <u>6.0"</u>
4	1.125"	N/A	N/A	N/A	WELD LENGTH: <u>24.5"</u>
5	N/A	N/A	N/A	N/A	



SKETCH #5
18/1

K. Smith 4-14-01
Prepared By Date

Bob Keller 4/17/01
Reviewed By Date

Wayne Denby 4-23-01
Utility Review By Date



PROFILE AND THICKNESS

Exam Date: 04/14/01

Summary No.: 024600

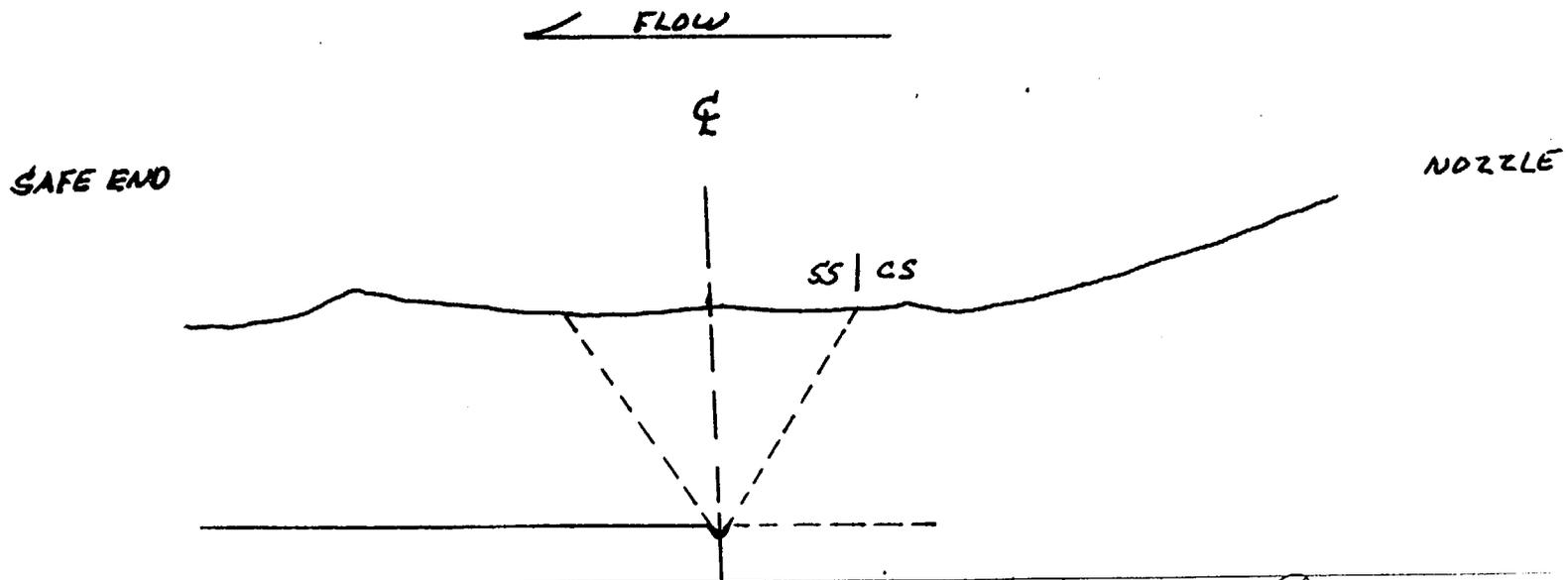
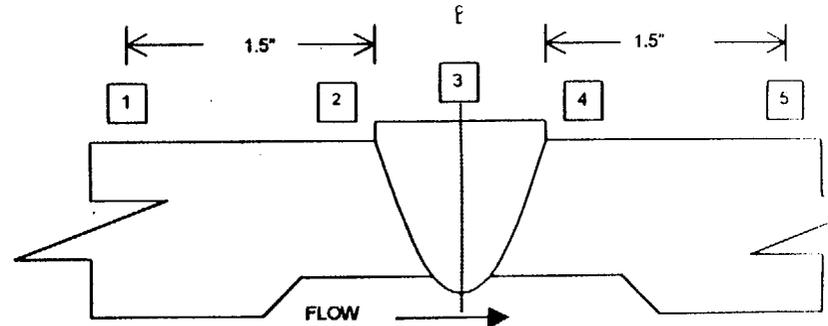
Site: Salem Unit 1, RFO 14

Examination Method: UT

System: Pressure Relief System

Identification: 6-PR-1103-1

POSITION	0	90	180	270	
1	N/A	N/A	N/A	N/A	CROWN HEIGHT: <u>Flush</u>
2	N/A	N/A	N/A	N/A	CROWN WIDTH: <u>1.6"</u>
3	1.175"	N/A	N/A	N/A	NOM DIAMETER: <u>6.0"</u>
4	1.150"	N/A	N/A	N/A	WELD LENGTH: <u>24.75"</u>
5	N/A	N/A	N/A	N/A	



Sketch #6
191

R Smith 4-14-01
Prepared By Date

Bob Keller 4/17/01
Reviewed By Date

W Penning 4-24-01 5/5
Utility Review By Date



PROFILE AND THICKNESS

Exam Date: 04/14/01

Summary No.: 033500

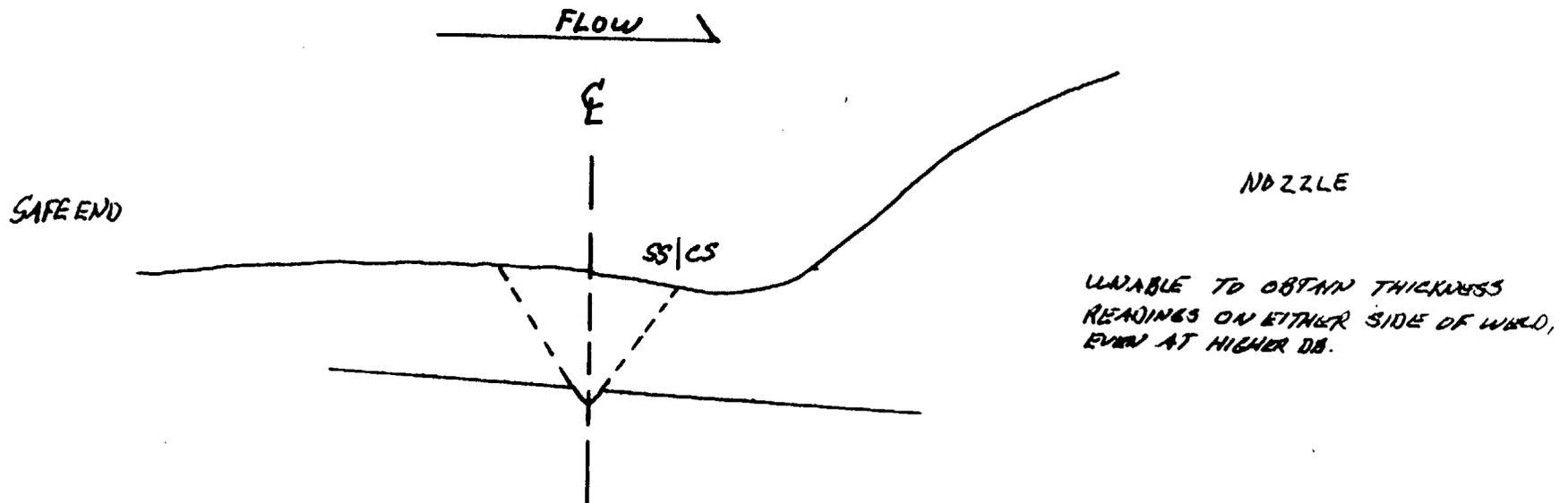
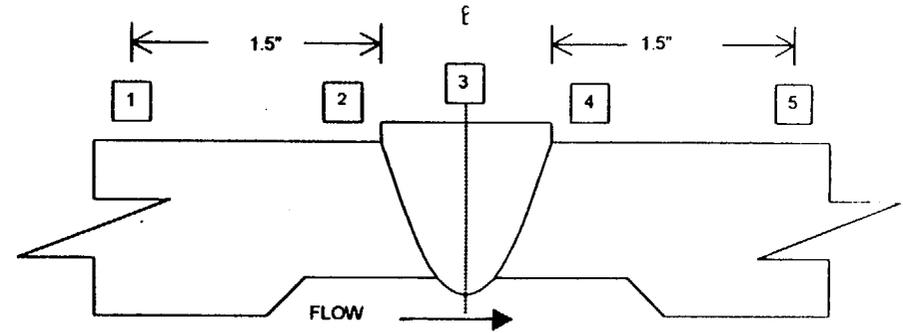
Site: Salem Unit 1, RFO 14

Examination Method: UT

System: Pressurizing System

Identification: 4-PS-1131-29

POSITION	0	90	180	270	
1	N/A	N/A	N/A	N/A	CROWN HEIGHT: <u>Flush</u>
2	N/A	N/A	N/A	N/A	CROWN WIDTH: <u>1.1"</u>
3	0.750"	N/A	N/A	N/A	NOM DIAMETER: <u>4.0"</u>
4	N/A	N/A	N/A	N/A	WELD LENGTH: <u>18.875"</u>
5	N/A	N/A	N/A	N/A	



Sketch # 7

R. Smith 4-14-01
Prepared By Date

Bob Keller 4/17/01
Reviewed By Date

W. Dealing 4-24-01 5/5
Utility Review By Date

Sketch # 8
1/80's

Original welds for OS6s
ER 316 for first 3/8"
ER 8-2 for the remainder
of the weld deposits
Equivalent to T-No. 8 Material

Hydrocap welds - 308L

MS 451 Type 316L

E308

A351 CF8M
SAM 37 2.312
55316

ELBOW

SS
BUTTERING
FUSION
LINE

NOZZLE

308L

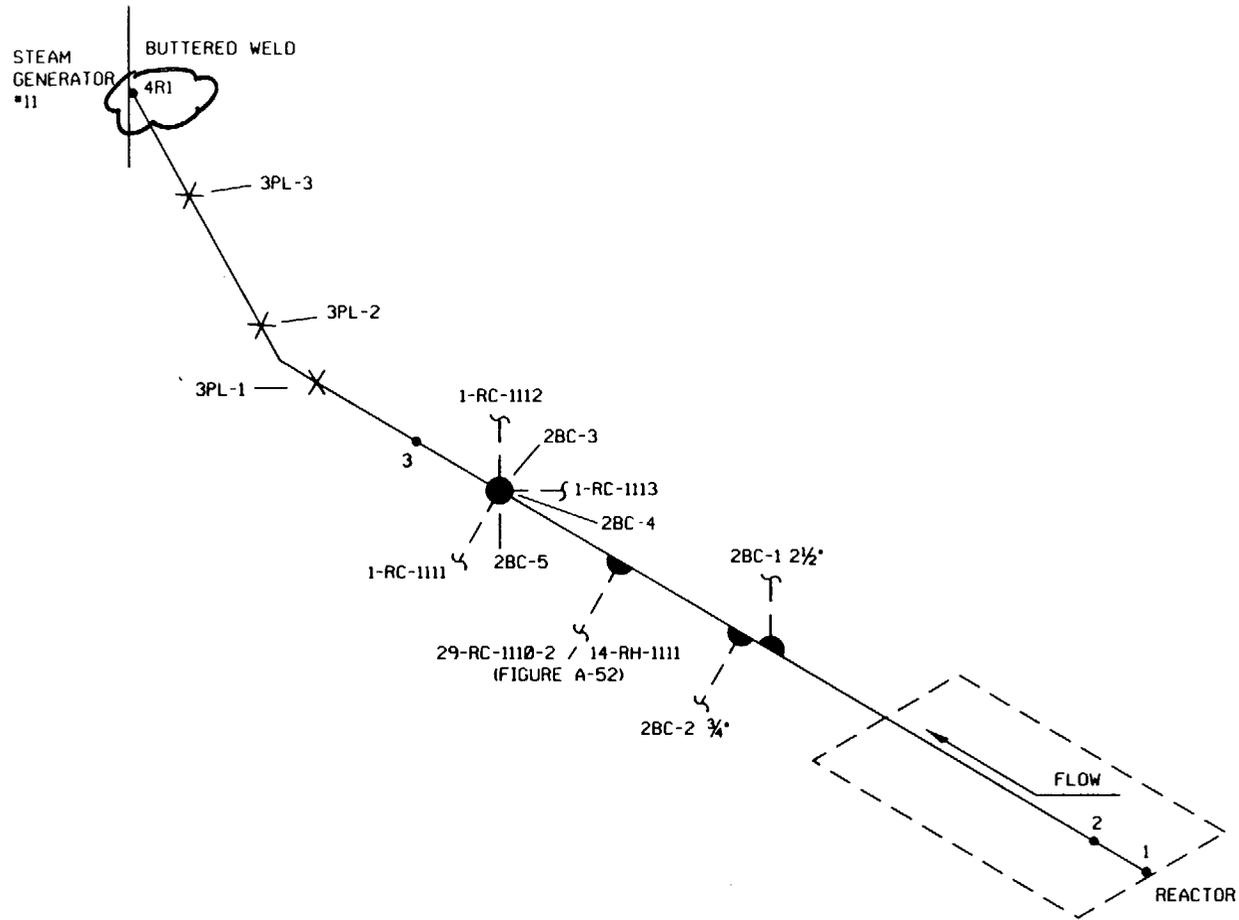
SA216 Gr WCC
INT CAST

PLATE
CSCL 5.0
SAM 118

INCONEL
WELD
BAND

ER308L
WELD
FILLER

E 16-8-25
117



MAIN REACTOR COOLANT
 #11 HOT LEG
 29-RC-1110
 PSEG ISO RC-1-1A

A 3052 105

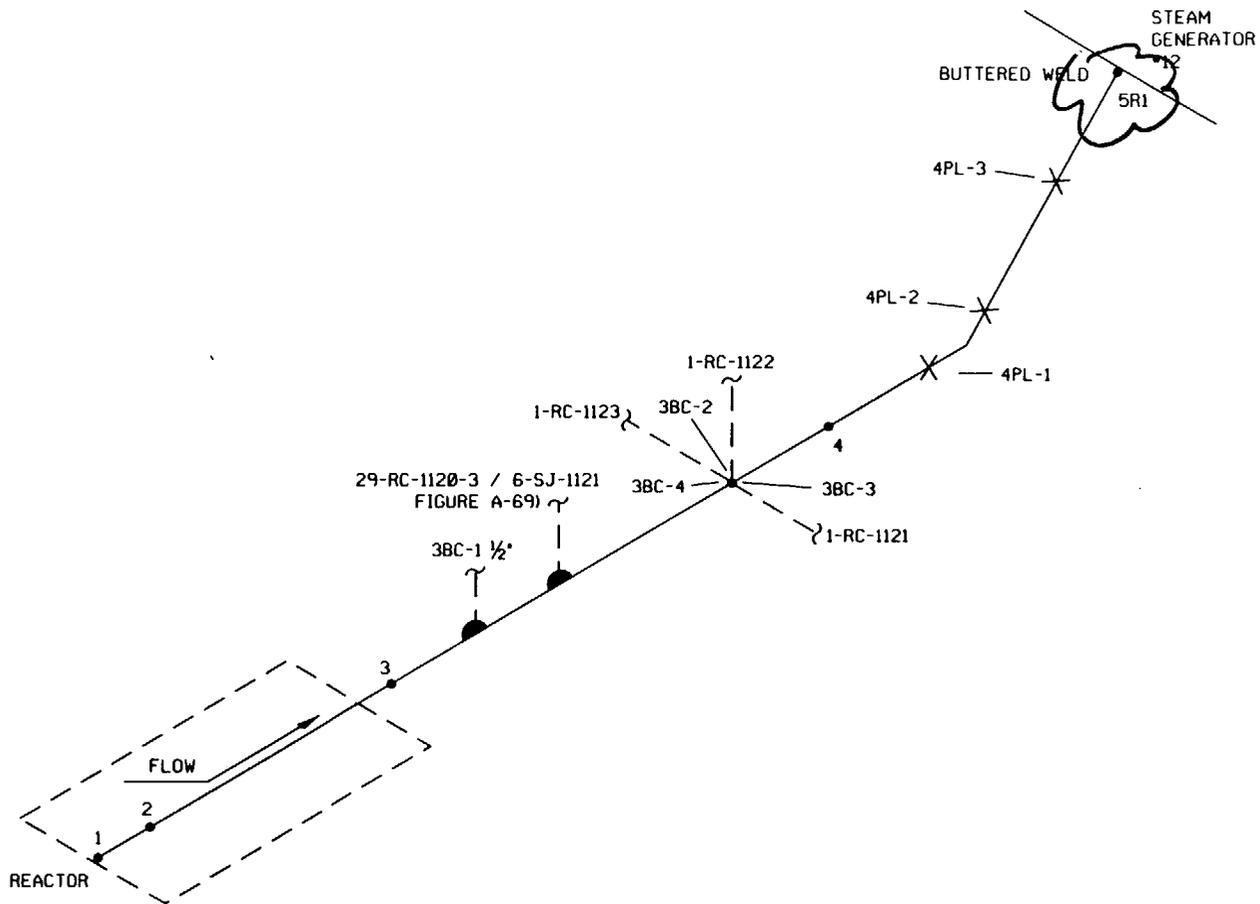
Sketch # 8 2005

BUILDING: CONTAINMENT	LOCATION: BIOSHIELD	ELEVATIONS: 97'
--------------------------	------------------------	--------------------

ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE ONLY BY CAED		
REV.	DATE	DESCRIPTION
		REPLACED PER ORDER No 80008418.
		REPLACED WELD 29 RC 1110 4 PER (NEW 5/0)

PSEG Nuclear, LLC
 SALEM NUCLEAR GENERATING STATION
 WELD IDENTIFICATION FIGURE

FIGURE: A 30	REVISION:
SYSTEM: REACTOR COOLANT	
#11 HOT LEG	
LINE: 29 RC 1110	
THIRD 10 YEAR INSPECTION PERIOD	



MAIN REACTOR COOLANT
 #12 HOT LEG
 29-RC-1120
 PSEG ISO RC-1-1B

A 3052 109

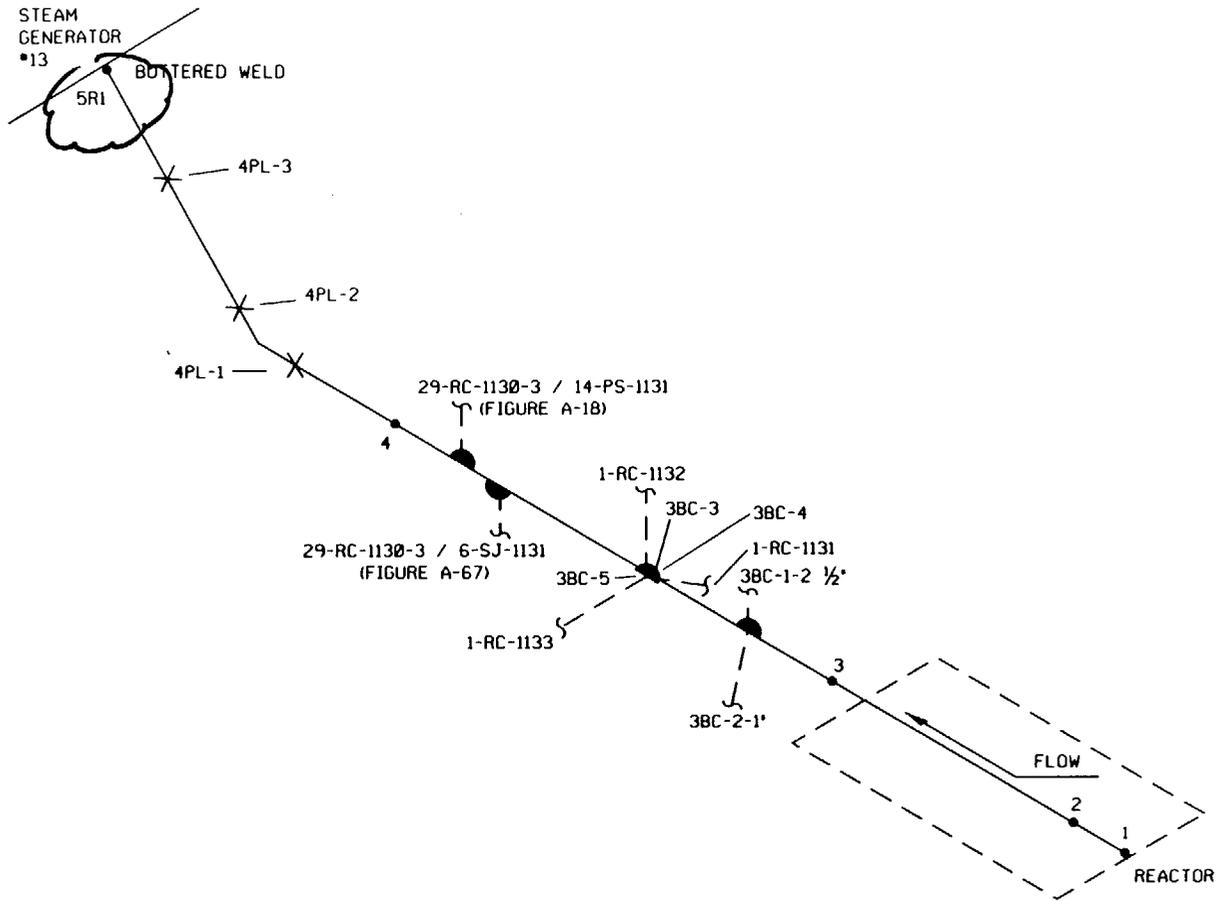
Sketch # 8305

BUILDING: CONTAINMENT	LOCATION: BIOSHIELD	ELEVATIONS: 85' TO 97'
--------------------------	------------------------	---------------------------

ATTENTION:	ANY REVISION TO THIS DRAWING SHALL BE MADE ONLY BY CALD
	REPLACED PER ORDER No. 80008418
	REPLACED WELD 29 RC 1120 5 PER (DW 1120)
	DESCRIPTION

PSEG Nuclear, LLC
 SALEM NUCLEAR GENERATING STATION
 WELD IDENTIFICATION FIGURE

FIGURE: A 29	REVISION:
SYSTEM: REACTOR COOLANT	
#12 HOT LEG	
LINE: 29 RC 1120	
THIRD 10 YEAR INSPECTION STUDY	



MAIN REACTOR COOLANT
 (*13 HOT LEG)
 29-RC-1130
 PSEG ISO RC-1-1A

A 3052 143

Sketch # 8 495

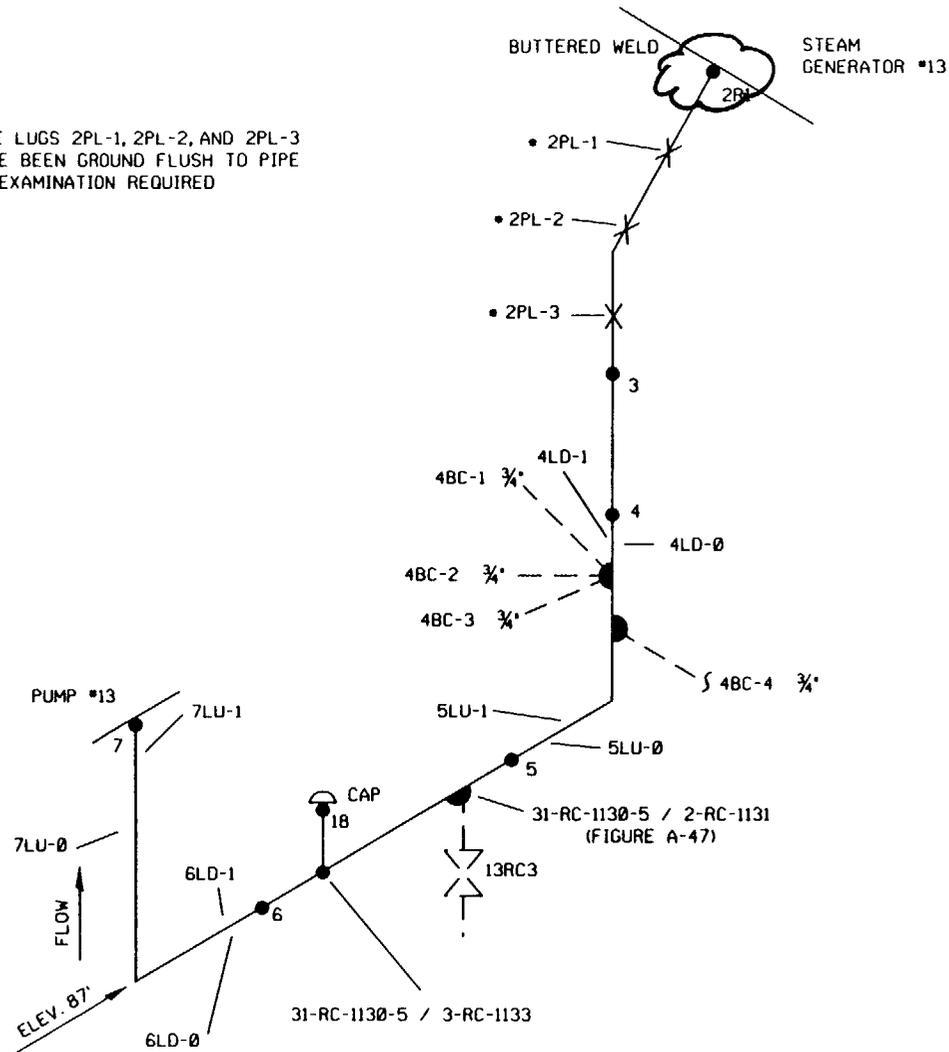
BUILDING: CONTAINMENT	LOCATION: BIOSHIELD	ELEVATIONS: 97'
--------------------------	------------------------	--------------------

ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE ONLY BY CAED	
REV	DESCRIPTION
1	REPLACED PER ORDER No. 80008418.
2	REPLACED WELD 29 RC 1130 5 PER (NEW SZG)
3	DESCRIPTION

PSEG Nuclear, LLC
 SALEM NUCLEAR GENERATING STATION
 WELD IDENTIFICATION FIGURE

FIGURE: A 28	REVISION:
SYSTEM: REACTOR COOLANT	
	*13 HOT LEG
LINE: 29 RC 1130	
THIRD 10 YEAR INSPECTION PERIOD	

• NOTE: PIPE LUGS 2PL-1, 2PL-2, AND 2PL-3
HAVE BEEN GROUND FLUSH TO PIPE
NO EXAMINATION REQUIRED



MAIN REACTOR COOLANT
(*13 CROSS OVER LEG)
31-RC-1130, 3-RC-1133
PSEG ISO RC-1-1A

A 3052 113

BUILDING: CONTAINMENT	LOCATION: BIOSHIELD	ELEVATIONS: 85' TO 97'
--------------------------	------------------------	---------------------------

ATTENTION: ANY REVISION TO THIS DRAWING SHALL BE MADE ONLY BY CAED	
REVISION	DESCRIPTION
1	REPLACED PER ORDER No. 80008418
2	REPLACED WELD 51 RC 1130 2
3	DEP. DREW 11/01

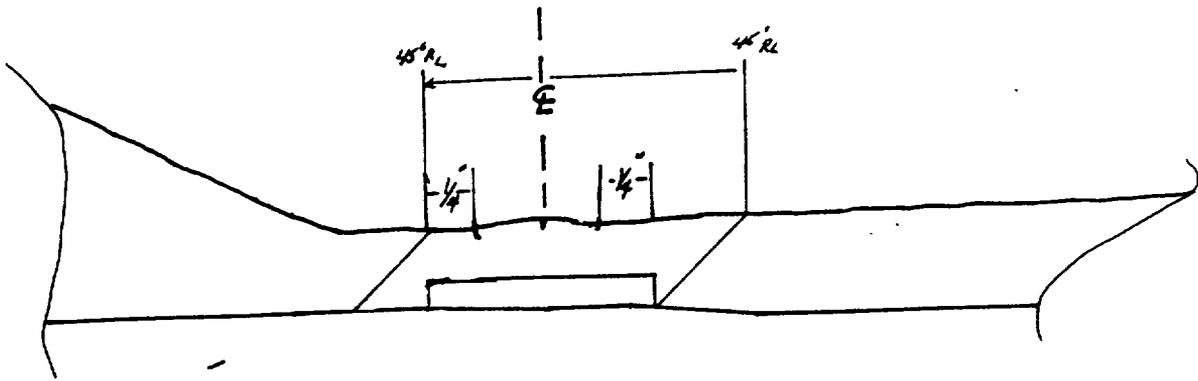
PSEG Nuclear, LLC
SALEM NUCLEAR GENERATING STATION
WELD IDENTIFICATION FIGURE

FIGURE: A 24	REVISION:
SYSTEM: REACTOR COOLANT	
*13 CROSS OVER LEG	
ITEM: 31 RC 1130, 3 RC 1133	
THIRD 10 YEAR INSPECTION PERIOD	

Sketch # 8595

UT COVERAGE PLOT

BRANCA CONNECTION \longrightarrow FLOW \longrightarrow PIPE



AXIAL SCANS
NO LIMITATIONS UPSTREAM ONLY
50% LIMITATION DOWNSTREAM

SUMMARY NO.: 030100

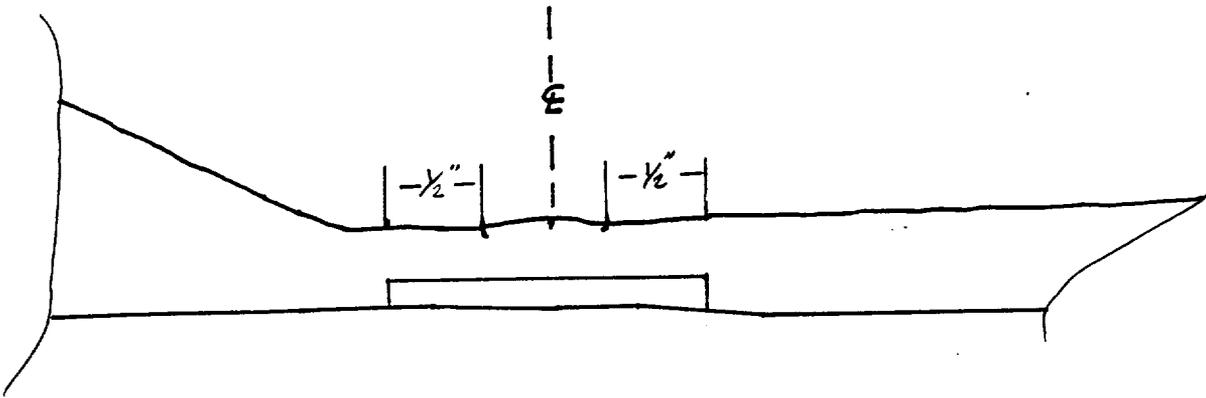
WELD: 4-P5-1131-1

PAGE 6 OF 8

Sketch # 9
102

UT COVERAGE PLOT

BRANCH CONNECTION FLOW → PIPE



45° CIRC SCANS
NO LIMITATIONS.

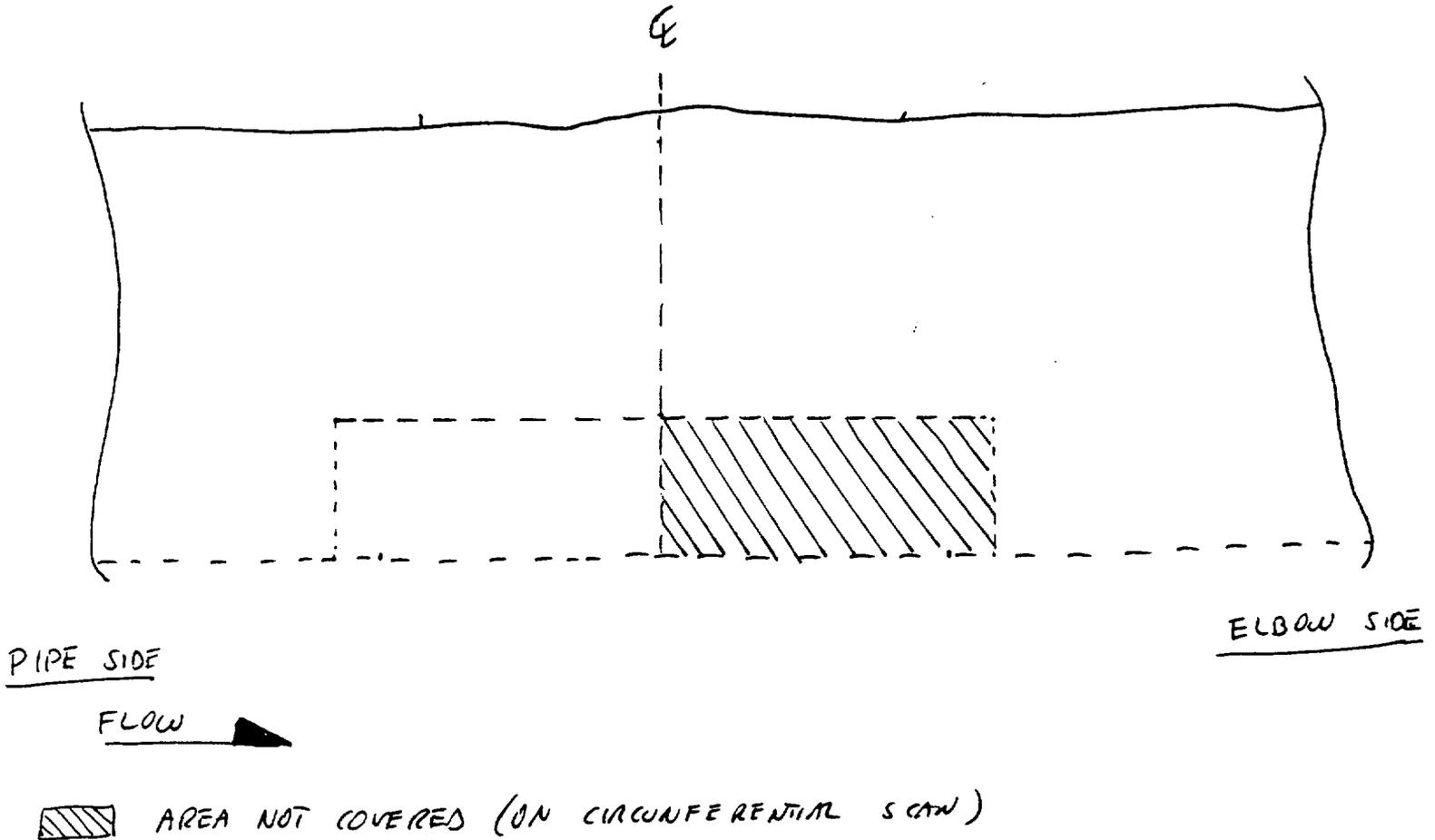
SUMMARY NO.: 030100

WELD: 4-PS-1131-1

PAGE 7 OF 8

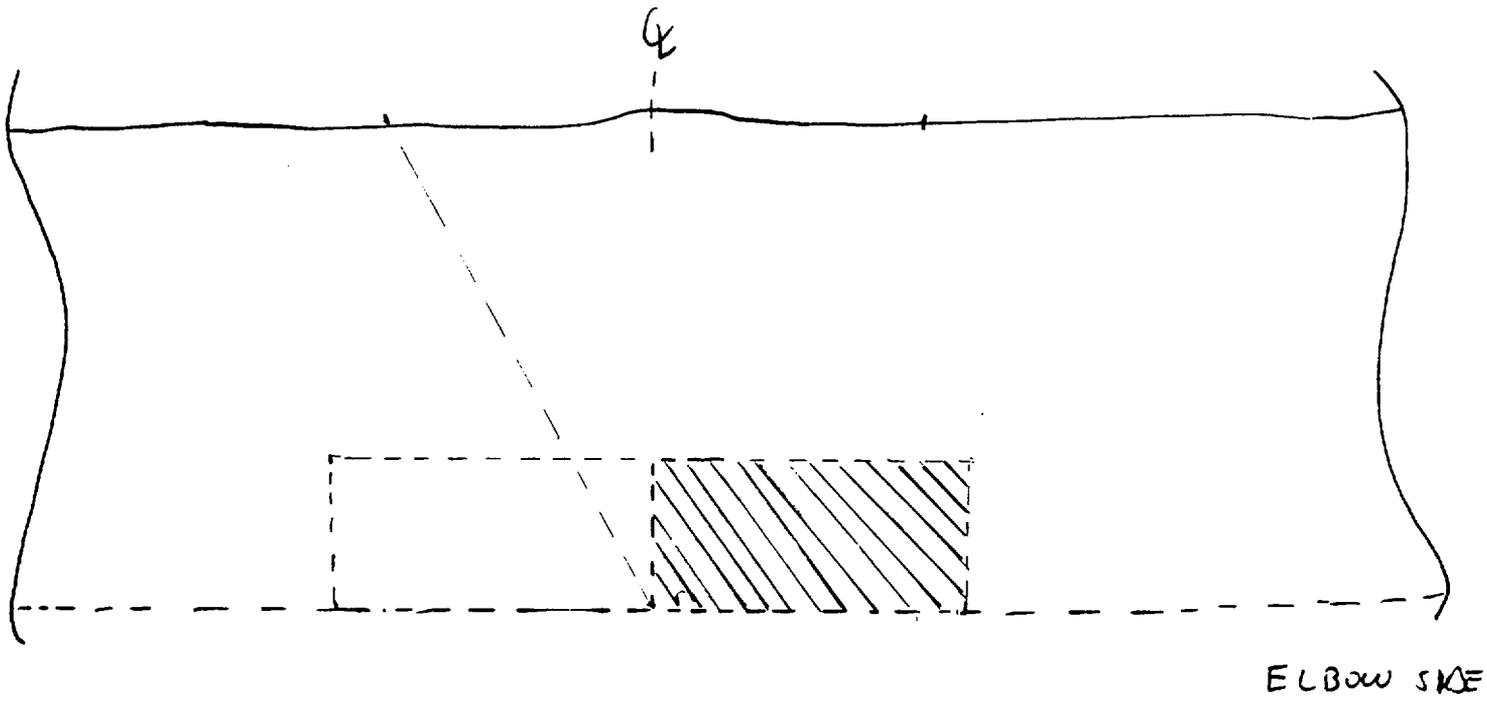
SKETCH # 9
282

UT COVERAGE PLOT



SUMMARY NO.: 045600
WELD: 31-RC-1110-4

UT COVERAGE PLOT



PIPE SIDE

ELBOW SIDE

FLOW 

 AREA NOT COVERED (ON AXIAL SCAN).

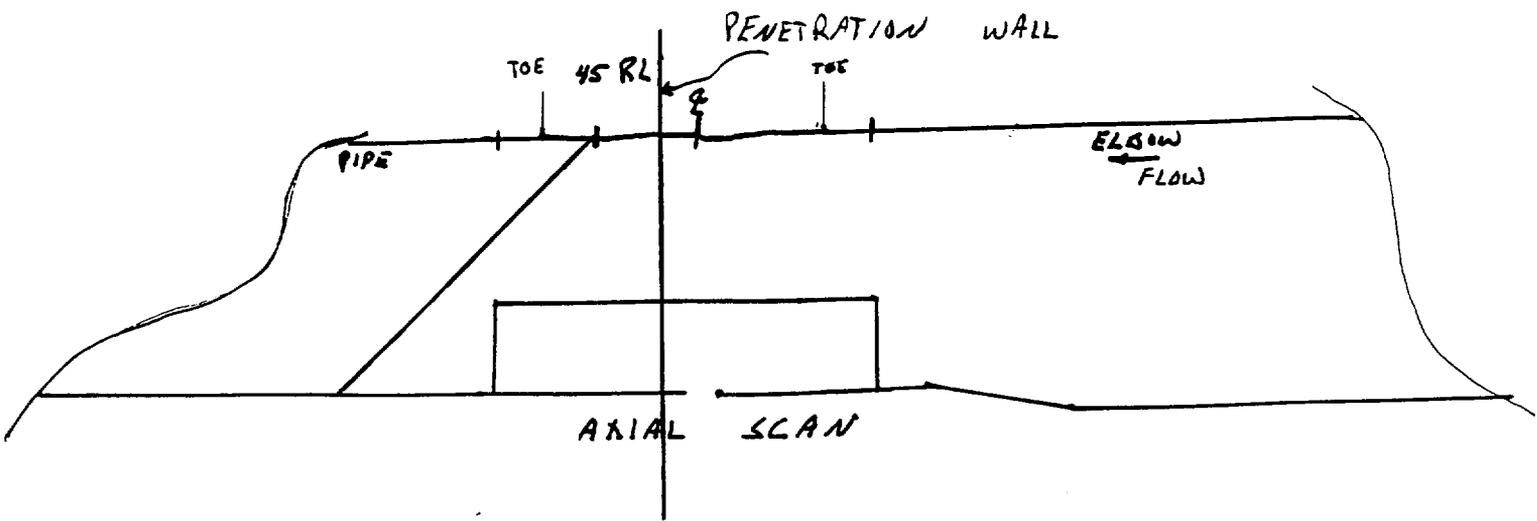
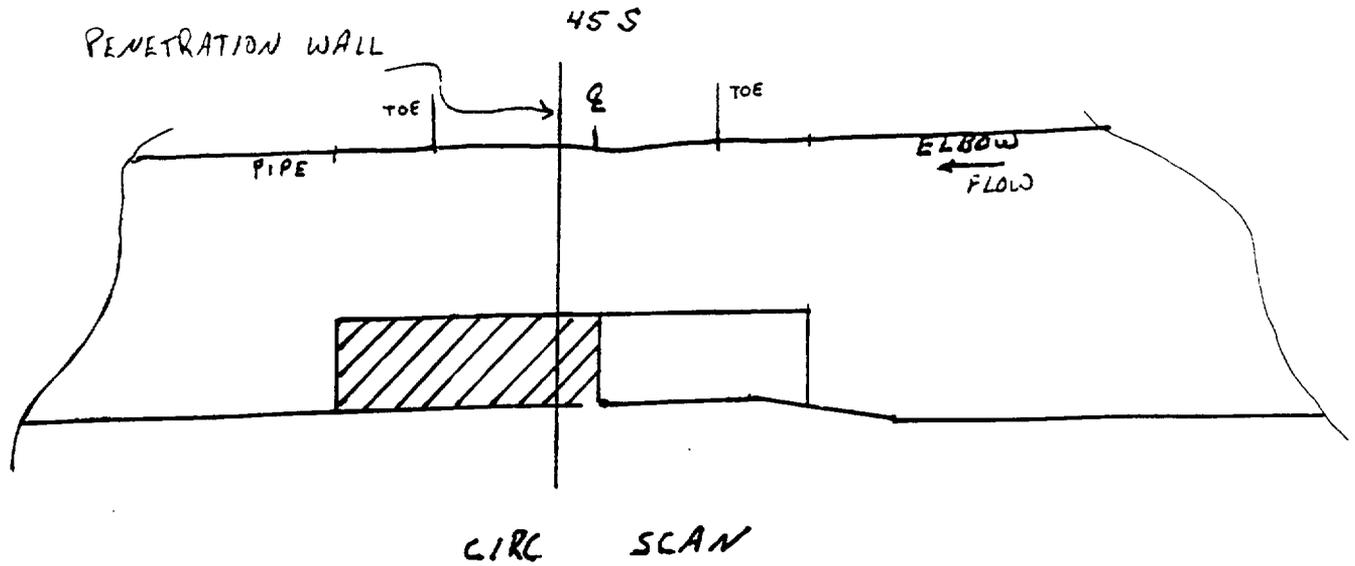
SUMMARY NO.: 045600

WELD: 31-RC-1110-4

PAGE 5 OF 8

SKETCH #10
202

UT COVERAGE PLOT



 = NO COVERAGE CW/CCW

SUMMARY NO.: 1002.00

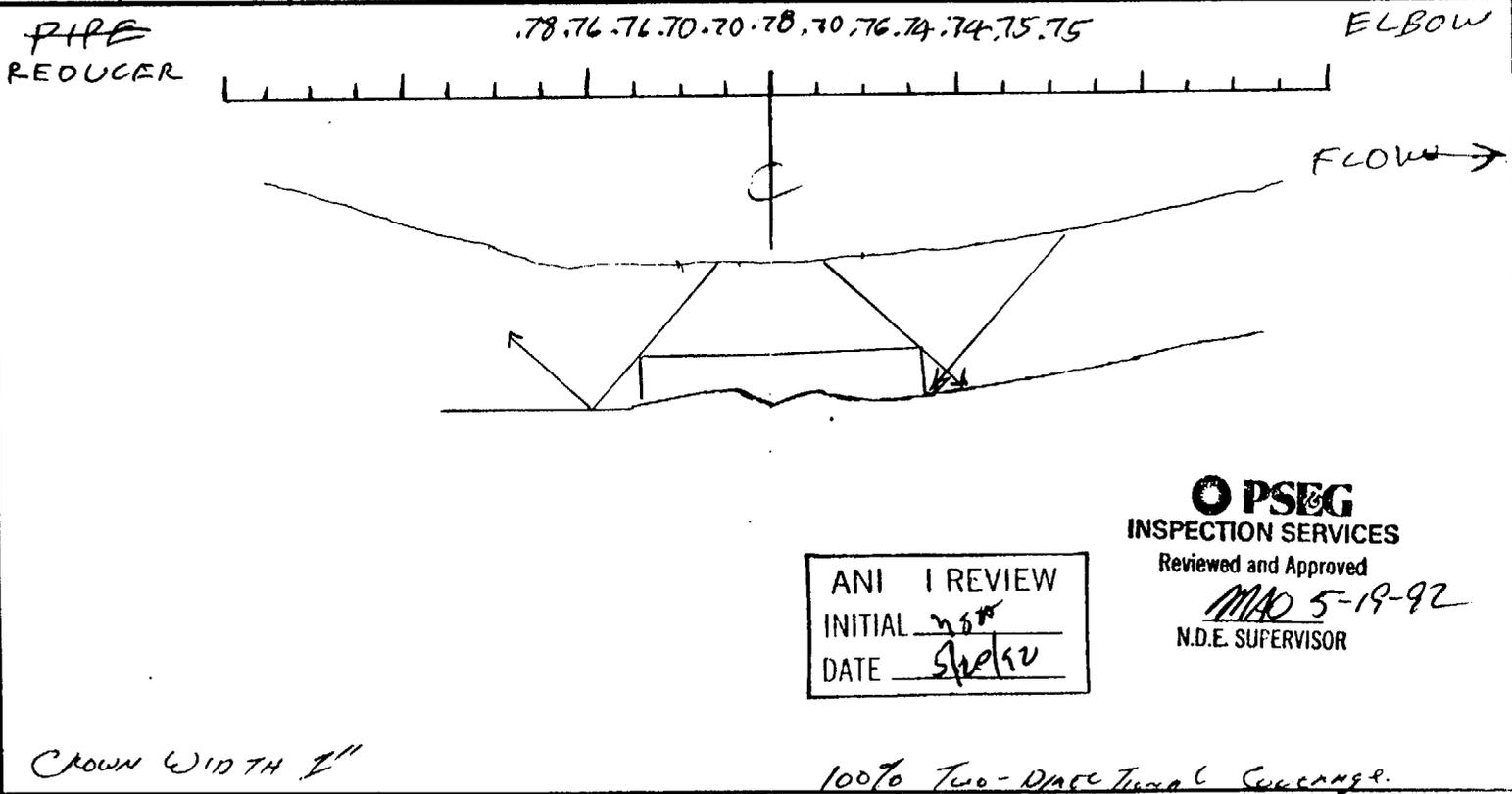
WELD: 10 SJ-1121-8



SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO: 17-4823		SITE: Salem Generating Station, Unit 1		DATE: (DAY - MONTH - YEAR) 1 MAY 92		TIME (24 HR. CLOCK) INT. 1252 FINAL 1600		SHEET NO: 135084		
EXAMINER: L R MATHEMNA		SNT LEVEL: II	THK. MEAS. REQ'D BY PROCEDURE No. PSE-UT31		INSTRUMENT: SONIC MARK I <input type="checkbox"/> OTHER 136 <input checked="" type="checkbox"/>		SERIAL NO: 5596		COMPONENT ID: 6-SJ-1141-1	
EXAMINER: F K BRAUN		SNT LEVEL: IT	REV 2		COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY)		CHG 0		REFERENCE BLK NO: 55-DC-2C	
ICN		<input checked="" type="checkbox"/> N/A								

SEARCH UNITS	
BRAND	KBA GAMMA
SERIAL NO	L-17921
SIZE	1/4
FREQ. (MHz)	5.0
INSTRUMENT SETTINGS	
SCREEN SIZE	1.0
DELAY	0.330
MATL. CAL.	0.215
RANGE	1.00
REP. RATE	4 KHz
JACK USED	REV/INT
TRANS MODE	DUAL



ANI I REVIEW	
INITIAL	<u>MS</u>
DATE	<u>5/18/92</u>

PSEG
INSPECTION SERVICES
Reviewed and Approved
MAO 5-19-92
N.D.E. SUPERVISOR

REVIEWED BY: <u>E. M. Pappas</u>		SNT LEVEL: <u>III</u>		DATE: <u>18 MAY 92</u>	
JACK USED: <u>REV/INT</u>		45° Search Unit chosen for coverage using <u>2/8 1/4 1/4</u> nodes.		NAME: <u>E. M. Pappas</u>	
TRANS MODE: <u>DUAL</u>		100° Search Unit chosen for coverage using <u>N/A</u> nodes.		SNT LEVEL: <u>III</u>	

Sketch # 12

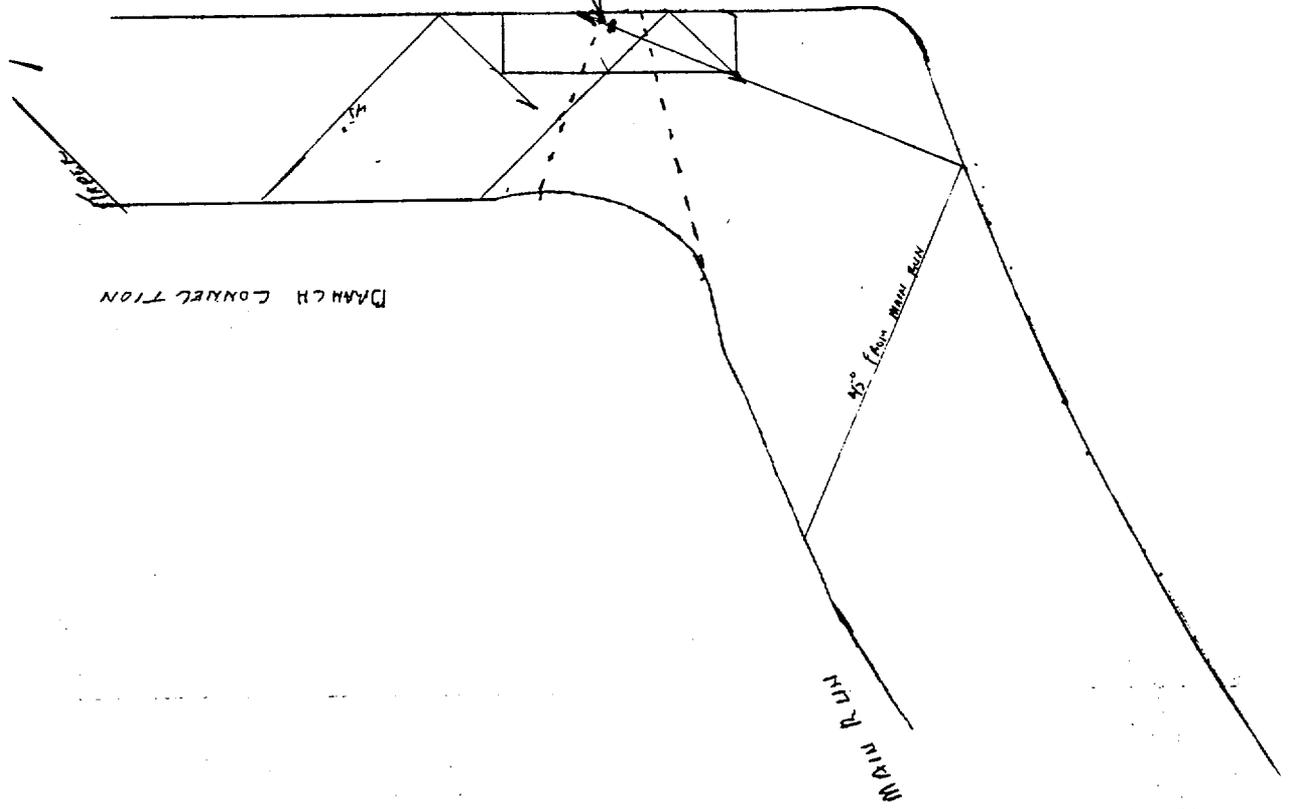
115300 ✓

27.5-RC-1110-1/4-PS-1111

TOTAL EXAM VOLUME - 20.43
LIMITATION VOLUME - 13.16
ONE-DIRECTIONAL COVERAGE - 100%
* TWO-DIRECTIONAL COVERAGE - 86.84%

* CODE COVERAGE.

M.P. 6.0



SALEM UNIT 1

17-4823

Rolls At Location Lv. II

07 MAY 92

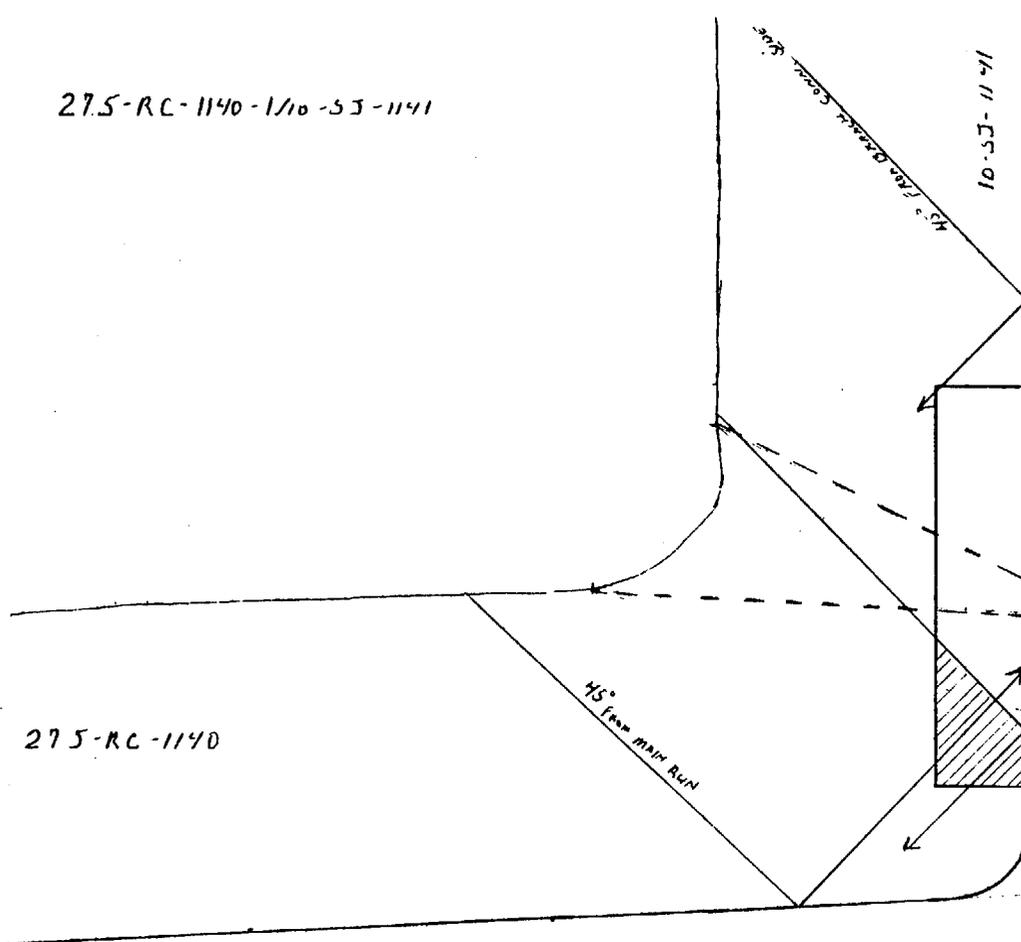
REF. PROFILE SH. # 135101

PSBG
INSPECTION SERVICES
 Engineered and Approved
[Signature]
 IN-DE. SUPERVISOR

REVIEW	DATE
INITIAL	DATE
DATE	DATE

Sketch # 13
181

275-RC-1140-1/10-SS-1141



TOTAL VOLUME OF EXAM - 107.49
 TOTAL VOLUME OF LIMITATION - 26.45
 ONE-DIRECTIONAL COVERAGE - 100%
 TWO-DIRECTIONAL COVERAGE - 75.4%

ANI REVIEW
 INITIAL nsa
 DATE 5/14/92

PSEG
 INSPECTION SERVICES
 Reviewed and Approved
[Signature]
 N.E. SUPERVISOR

SALEM UNIT 1
 17-4823
 REF. PROFILE # 135102

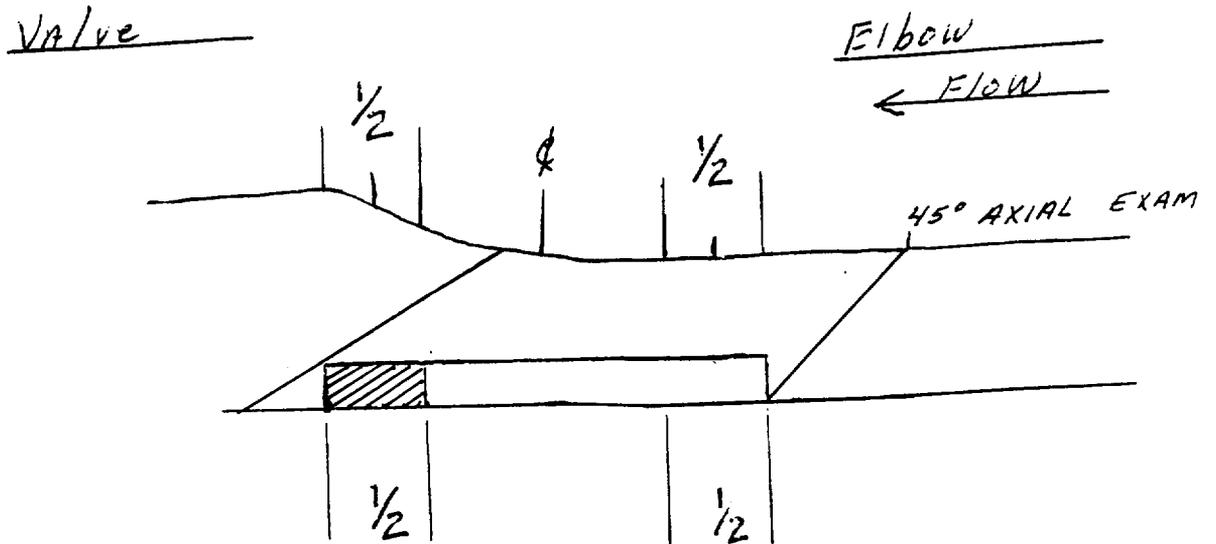
[Signature]
 12 MAY 92

Sketch #14
 181

UT COVERAGE PLOT

9-29-99

CIRCUMFERENTIAL EXAMINATION



SUMMARY NO.: 122300

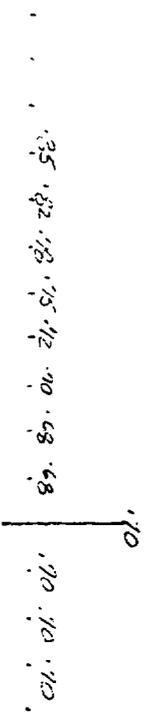
WELD: 65J-1121-2

PAGE 6 OF 7

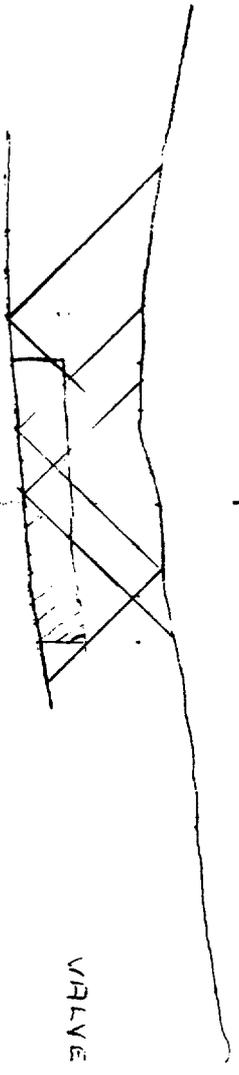
181
Sketch # 15

181
Sketch # 16

Flow →



REDUCER



VALVE

6-5J-1112-1

45° 1/8", 3/8", 1/2", 12/8"

Various diameters

Circle with diam. required



= AREA COVERED IN ONLY ONE VIEW (ONLY)

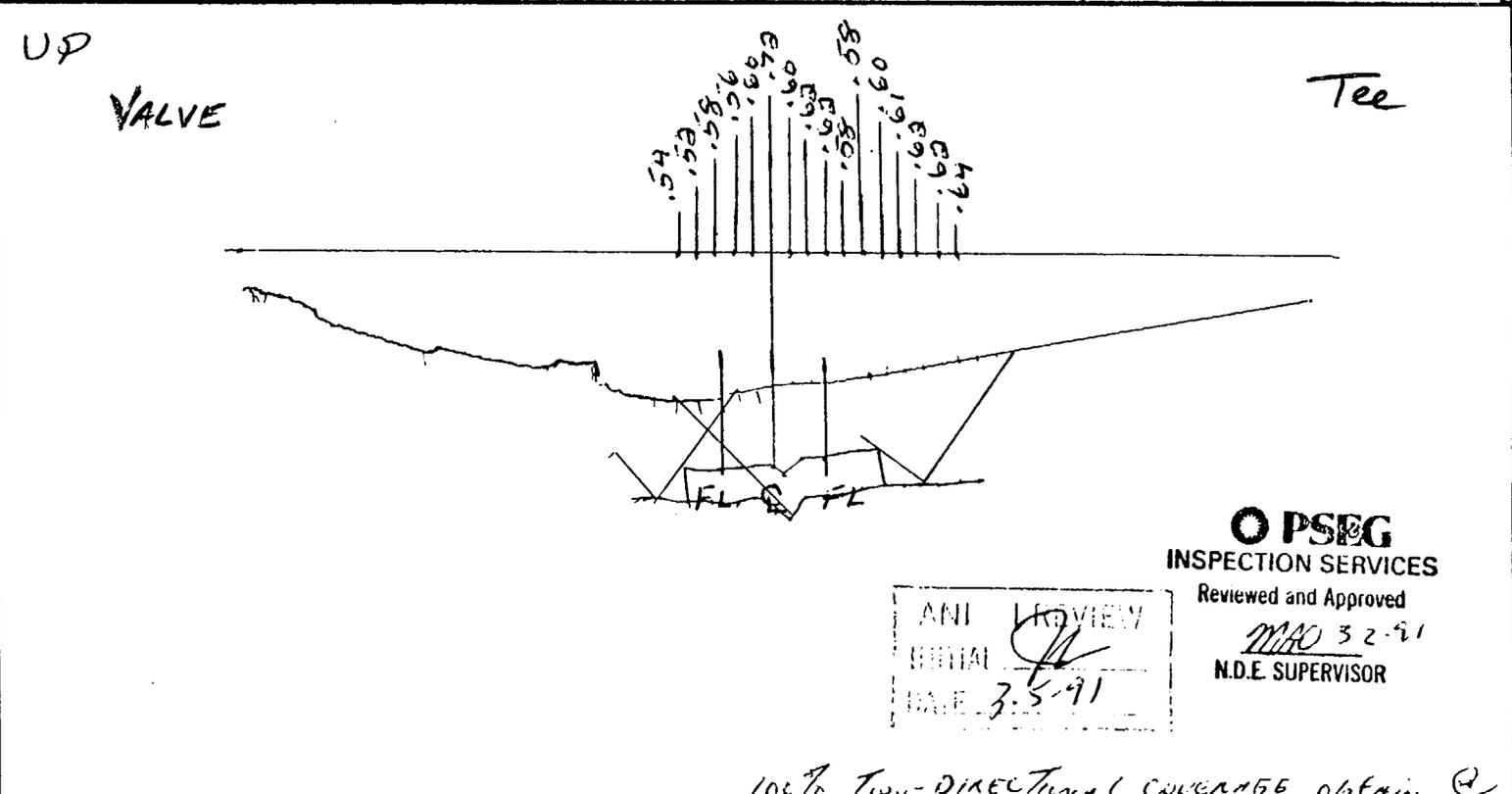
ORPAC
INSPECTION SERVICES
Reviewed and Approved
5/16/59
NDE SPECIALIST



SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO: 17-3645	SITE: Salem Generating Station, Unit 1	DATE: (DAY - MONTH - YEAR) 21 FEB 91	TIME (24 HR. CLOCK) INT. 1025 FINAL 1037	SHEET NO 135052	
EXAMINER D. R. KLEINJAN	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE No. PSE-0731	INSTRUMENT: SONIC MARK I <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	SERIAL NO: 04304E	COMPONENT ID: 4-PS-1111-23
EXAMINER D. FORHAN	SNT LEVEL IT	REV <input type="checkbox"/> CHG <input type="checkbox"/> ICN <input checked="" type="checkbox"/> N/A	COUPLANT: GLYCERINE <input checked="" type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) _____	REFERENCE BLK NO: SS-DC-39	

SEARCH UNITS	
BRAND	KBA
SERIAL NO	H28912
SIZE	1/4
FREQ. (MHz)	2.2
INSTRUMENT SETTINGS	
SCREEN SIZE	1"
DELAY	153-1
MATL. CAL.	112
RANGE	1
REP. RATE	3K
JACK USED	RET
TRANS MODE	THRU



PSEG
INSPECTION SERVICES
Reviewed and Approved
MAO 32-21
N.D.E. SUPERVISOR

ANI REVIEW
INITIAL **[Signature]**
DATE **3-5-91**

100% Two-DIRECTIONAL COVERAGE OBTAINED @

REVIEWED BY: [Signature]	SNT LEVEL: III	NAME: [Signature]	DATE: 23 FEB 91
45° Search Unit chosen for coverage using 3/8, 1/2, 10/16 nodes.	N/A° Search Unit chosen for coverage using N/A nodes.	SNT LEVEL: 21 FEB 91	

Sketch #17
1081

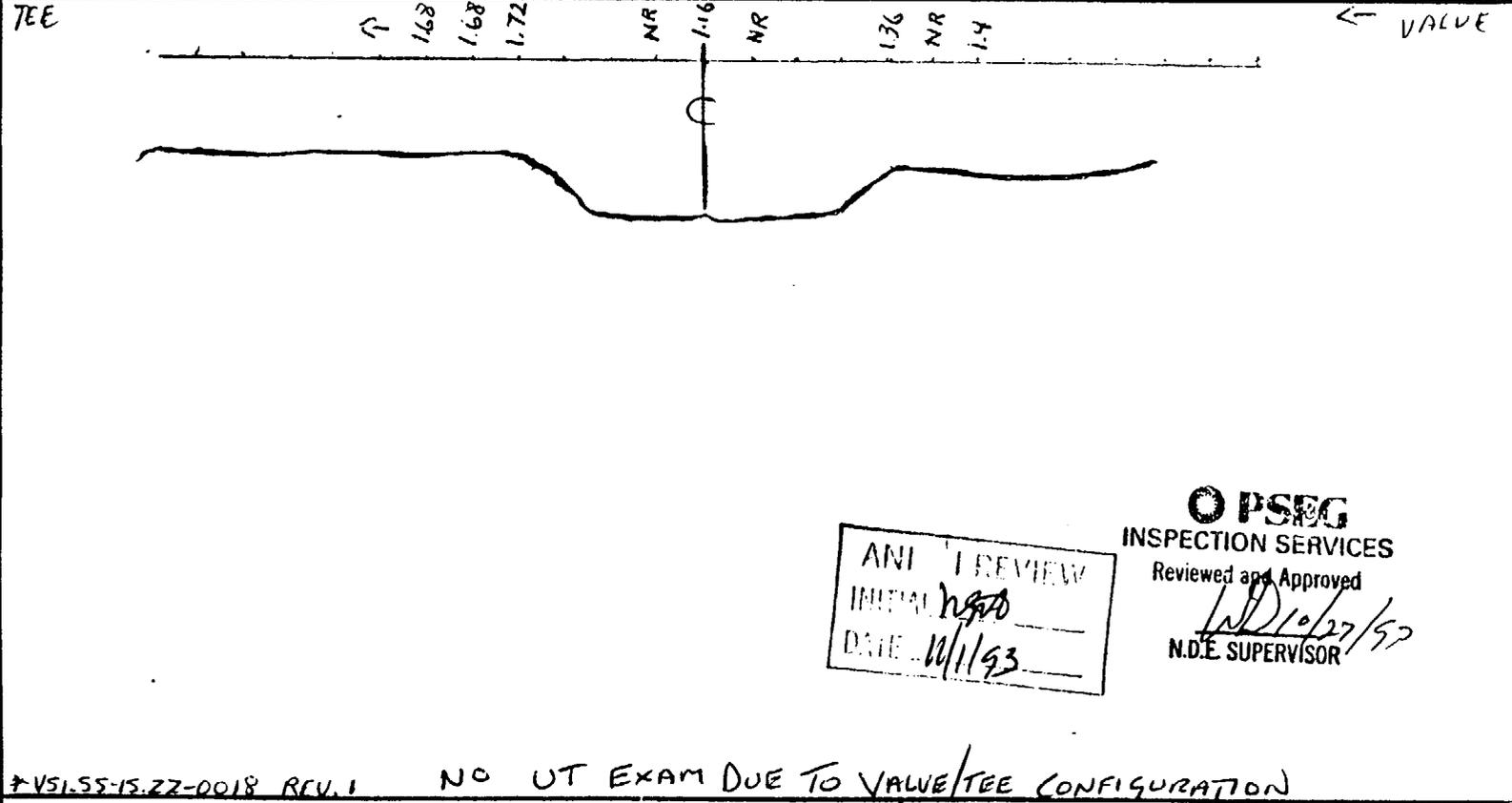


SWRI PROFILE AND THICKNESS INFORMATION RECORD

PROJECT NO: 17-5858	SITE: Salem Generating Station, Unit 1	DATE: (DAY - MONTH - YEAR) 26 OCT 93	TIME (24 HR. CLOCK)	SHEET NO: 135065
			INT. 0941	FINAL 1006

EXAMINER B. ROBEROS	SNT LEVEL II	THK. MEAS. REQ'D BY PROCEDURE* No. PSE-UT 49 REV 1 CHGD ICN <input checked="" type="checkbox"/> N/A	INSTRUMENT: SONIC MARK 1 <input type="checkbox"/> OTHER 136 <input checked="" type="checkbox"/>	SERIAL NO: 559G	COMPONENT ID: 10-5J-1141-14
EXAMINER W. BYLER	SNT LEVEL I T		COUPLANT: GLYCERINE <input type="checkbox"/> WATER <input type="checkbox"/> OTHER (SPECIFY) ULTRAGELATCHAL 9092		REFERENCE BLK NO: 55-114

SEARCH UNITS	
BRAND	KBA
SERIAL NO	C 12257
SIZE	.25
FREQ. (MHz)	2.25
INSTRUMENT SETTINGS	
SCREEN SIZE	2.0
DELAY	.276
MATL. CAL. VELOCITY	.211
RANGE	2.00
REP. RATE	4 KHZ
JACK USED	RCV/XMT
TRANS MODE	DUAL



OPSEG
INSPECTION SERVICES
Reviewed and Approved
[Signature]
DATE **10/27/93**
N.D.E. SUPERVISOR

ANI REVIEW
 INITIAL **hgt**
 DATE **10/11/93**

***VS1.55-15.22-0018 REV. 1 NO UT EXAM DUE TO VALVE/TEE CONFIGURATION**

° Search Unit chosen for coverage using SEE ABOVE nodes.	NAME: VICTOR MORTON	SNT LEVEL: III
° Search Unit chosen for coverage using _____ nodes.		

REVIEWED BY: <i>[Signature]</i>	SNT LEVEL: III	DATE: 26 OCT 93
---------------------------------	-----------------------	------------------------

Sketch #18

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W13
LOWER SHELL-TO-BOTTOM HEAD
SALEM WELD NO.: 1-RPV-10042

SCAN PLAN DRAWING NO.: 6007156E-01
AGGREGATE COVERAGE OBTAINED: 56%

Zone Coverage Obtained									
Weld: 56%					Adjacent Base Metal: 56%				
Examination Volume Definition									
Weld Length: 543.5 in.									
Area Measurement					Volume Calculation				
Weld: Near Surface		0.88 sq. in.			Weld: Near Surface		478.3 cu. in.		
Weld: Balance of Volume		4.94 sq. in.			Weld: Balance of Volume		2684.9 cu. in.		
Base Metal: Near Surface		7.86 sq. in.			Base Metal: Near Surface		4271.9 cu. in.		
Base Metal: Balance of Volume		38.24 sq. in.			Base Metal: Balance of Volume		20783.4 cu. in.		
Examination Coverage Calculations									
WELD									
Weld (Near Surface Region B-C-H-I)									
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined		
1	70L	11	0.88	307.00	270.2	270.2	100%	BETWEEN LUGS	
2	70L	12	0.88	307.00	270.2	270.2	100%	BETWEEN LUGS	
3	70L	3	0.88	307.00	270.2	270.2	100%	BETWEEN LUGS	
4	70L	4	0.88	307.00	270.2	270.2	100%	BETWEEN LUGS	
5	70L	11	0.00	236.50	0.0	208.1	0%	UNDER LUGS	
6	70L	12	0.00	236.50	0.0	208.1	0%	UNDER LUGS	
7	70L	3	0.00	236.50	0.0	208.1	0%	UNDER LUGS	
8	70L	4	0.00	236.50	0.0	208.1	0%	UNDER LUGS	
<i>Totals:</i>					1080.6	1913.1	56%		
Weld (Balance of Volume Region G-H-I-J)									
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined		
1	45L	11	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
2	45L	12	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
3	45L	3	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
4	45L	4	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
5	45S	11	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
6	45S	12	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
7	45S	3	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
8	45S	4	4.94	307.00	1516.6	1516.6	100%	BETWEEN LUGS	
9	45L	11	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
10	45L	12	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
11	45L	3	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
12	45L	4	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
13	45S	11	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
14	45S	12	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
15	45S	3	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
16	45S	4	0.00	236.50	0.0	1168.3	0%	UNDER LUGS	
<i>Totals:</i>					12132.6	21479.1	56%		

Sketch
19
1/8/13

BASE METAL

W-13 SHEET - 2

Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)

Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined	
1	70L	11	7.86	307.00	2413.0	2413.0	100%	BETWEEN LUGS
2	70L	3	7.86	307.00	2413.0	2413.0	100%	BETWEEN LUGS
3	70L	4	7.86	307.00	2413.0	2413.0	100%	BETWEEN LUGS
4	70L	11	0.00	236.50	0.0	1858.9	0%	UNDER LUGS
5	70L	3	0.00	236.50	0.0	1858.9	0%	UNDER LUGS
6	70L	4	0.00	236.50	0.0	1858.9	0%	UNDER LUGS
<i>Totals:</i>					7239.1	12815.7	56%	

Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)

Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined	
1	45L	11	38.24	307.00	11739.7	11739.7	100%	BETWEEN LUGS
2	45L	3	38.24	307.00	11739.7	11739.7	100%	BETWEEN LUGS
3	45L	4	38.24	307.00	11739.7	11739.7	100%	BETWEEN LUGS
4	45S	11	38.24	307.00	11739.7	11739.7	100%	BETWEEN LUGS
5	45S	3	38.24	307.00	11739.7	11739.7	100%	BETWEEN LUGS
6	45S	4	38.24	307.00	11739.7	11739.7	100%	BETWEEN LUGS
7	45L	11	0.00	236.50	0.0	9043.8	0%	UNDER LUGS
8	45L	3	0.00	236.50	0.0	9043.8	0%	UNDER LUGS
9	45L	4	0.00	236.50	0.0	9043.8	0%	UNDER LUGS
10	45S	11	0.00	236.50	0.0	9043.8	0%	UNDER LUGS
11	45S	3	0.00	236.50	0.0	9043.8	0%	UNDER LUGS
12	45S	4	0.00	236.50	0.0	9043.8	0%	UNDER LUGS
<i>Totals:</i>					70438.1	124700.6	56%	

NOTE: UNDER LUGS WERE NOT SCANNED DUE TO STAINLESS STEEL INSERT NOT DEPICTED ON CUSTOMER DRAWINGS SUPPLIED TO FTI-ANP.

Sketch
19
2813

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W02
UPPER LONG SEAM @ 7 DEGREES
 SALEM-1 WELD NO.: 1-RPV-1042B

SCAN PLAN DRAWING NO.: 6007158E-01
 AGGREGATE COVERAGE OBTAINED: 66%

Zone Coverage Obtained								
Weld: 66%				Adjacent Base Metal: 66%				
Examination Volume Definition								
Weld Length: 67.41 in.								
Area Measurement				Volume Calculation				
Weld: Near Surface 1.60 sq. in.				Weld: Near Surface 107.9 cu. in.				
Weld: Balance of Volume 12.72 sq. in.				Weld: Balance of Volume 857.5 cu. in.				
Base Metal: Near Surface 10.85 sq. in.				Base Metal: Near Surface 731.4 cu. in.				
Base Metal: Balance of Volume 113.97 sq. in.				Base Metal: Balance of Volume 7682.7 cu. in.				
Examination Coverage Calculations								
WELD								
Weld (Near Surface Region B-C-H-I)								
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined	
1	70L	1	1.60	44.80	71.7	71.7	100%	
2	70L	1	0.00	22.62	0.0	36.2	0%	
3	70L	2	1.60	44.80	71.7	71.7	100%	
4	70L	2	0.00	22.62	0.0	36.2	0%	
5	70L	3	1.60	44.80	71.7	71.7	100%	
6	70L	3	0.00	22.62	0.0	36.2	0%	
7	70L	4	1.60	44.80	71.7	71.7	100%	
8	70L	4	0.00	22.62	0.0	36.2	0%	
					Totals:	286.7	431.5	66%
Weld (Balance of Volume Region G-H-I-J)								
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined	
1	45L	1	12.72	44.80	569.9	569.9	100%	
2	45L	1	0.00	22.62	0.0	287.7	0%	
3	45L	2	12.72	44.80	569.9	569.9	100%	
4	45L	2	0.00	22.62	0.0	287.7	0%	
5	45L	3	12.72	44.80	569.9	569.9	100%	
6	45L	3	0.00	22.62	0.0	287.7	0%	
7	45L	4	12.72	44.80	569.9	569.9	100%	
8	45L	4	0.00	22.62	0.0	287.7	0%	
9	45S	1	12.72	44.80	569.9	569.9	100%	
10	45S	1	0.00	22.62	0.0	287.7	0%	
11	45S	2	12.72	44.80	569.9	569.9	100%	
12	45S	2	0.00	22.62	0.0	287.7	0%	
13	45S	3	12.72	44.80	569.9	569.9	100%	
14	45S	3	0.00	22.62	0.0	287.7	0%	
15	45S	4	12.72	44.80	569.9	569.9	100%	
16	45S	4	0.00	22.62	0.0	287.7	0%	
					Totals:	4558.9	6860.7	66%
BASE METAL								
Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)								
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined	
1	70L	1	10.85	44.80	486.1	486.1	100%	
2	70L	1	0.00	22.62	0.0	245.4	0%	
3	70L	3	10.85	44.80	486.1	486.1	100%	
4	70L	3	0.00	22.62	0.0	245.4	0%	
5	70L	4	10.85	44.80	486.1	486.1	100%	
6	70L	4	0.00	22.62	0.0	245.4	0%	
					Totals:	1458.2	2194.5	66%
Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)								
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined	
1	45L	1	113.97	44.80	5105.9	5105.9	100%	
2	45L	1	0.00	22.62	0.0	2578.0	0%	
3	45L	3	113.97	44.80	5105.9	5105.9	100%	
4	45L	3	0.00	22.62	0.0	2578.0	0%	
5	45L	4	113.97	44.80	5105.9	5105.9	100%	
6	45L	4	0.00	22.62	0.0	2578.0	0%	
7	45S	1	113.97	44.80	5105.9	5105.9	100%	
8	45S	1	0.00	22.62	0.0	2578.0	0%	
9	45S	3	113.97	44.80	5105.9	5105.9	100%	
10	45S	3	0.00	22.62	0.0	2578.0	0%	
11	45S	4	113.97	44.80	5105.9	5105.9	100%	
12	45S	4	0.00	22.62	0.0	2578.0	0%	
					Totals:	30635.1	46103.1	66%

Sketch 19
3/7/13

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W14
BOTTOM HEAD (CIRC)
SALEM WELD NO.: 1-RPV-4043

SCAN PLAN DRAWING NO.: 6007157E-01
AGGREGATE COVERAGE OBTAINED: 14%

Zone Coverage Obtained							
Weld: 12%				Adjacent Base Metal: 15%			
Examination Volume Definition							
Weld Length:		424.3 in.					
Area Measurement				Volume Calculation			
Weld: Near Surface		0.99 sq. in.		Weld: Near Surface		420.1 cu. in.	
Weld: Balance of Volume		4.84 sq. in.		Weld: Balance of Volume		2053.6 cu. in.	
Base Metal: Near Surface		5.90 sq. in.		Base Metal: Near Surface		2503.4 cu. in.	
Base Metal: Balance of Volume		25.48 sq. in.		Base Metal: Balance of Volume		10811.2 cu. in.	
Examination Coverage Calculations							
WELD							
Weld (Near Surface Region B-C-H-I)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	0.99	60.11	59.5	59.5	100%
2	70L	11	0.00	364.19	0.0	360.5	0%
3	70L	12	0.99	23.57	23.3	23.3	100%
4	70L	12	0.00	400.73	0.0	396.7	0%
5	70L	3	0.99	63.65	63.0	63.0	100%
6	70L	3	0.00	360.65	0.0	357.0	0%
7	70L	4	0.99	63.65	63.0	63.0	100%
8	70L	4	0.00	360.65	0.0	357.0	0%
<i>Totals:</i>					208.9	1680.2	12%
Weld (Balance of Volume Region G-H-I-J)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	4.84	60.11	290.9	290.9	100%
2	45L	11	0.00	364.19	0.0	1762.7	0%
3	45S	11	4.84	60.11	290.9	290.9	100%
4	45S	11	0.00	364.19	0.0	1762.7	0%
5	45L	12	4.84	23.57	114.1	114.1	100%
6	45L	12	0.00	400.73	0.0	1939.5	0%
7	45S	12	4.84	23.57	114.1	114.1	100%
8	45S	12	0.00	400.73	0.0	1939.5	0%
9	45L	3	4.84	63.65	308.1	308.1	100%
10	45L	3	0.00	360.65	0.0	1745.5	0%
11	45S	3	4.84	63.65	308.1	308.1	100%
12	45S	3	0.00	360.65	0.0	1745.5	0%
13	45L	4	4.84	63.65	308.1	308.1	100%
14	45L	4	0.00	360.65	0.0	1745.5	0%
15	45S	4	4.84	63.65	308.1	308.1	100%
16	45S	4	0.00	360.65	0.0	1745.5	0%
<i>Totals:</i>					2042.3	16428.9	12%

Sketch 19
4/8/13

BASE METAL

W-14 SHEET 2

Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)

Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	5.90	60.11	354.6	354.6	100%
2	70L	11	0.00	364.19	0.0	2148.7	0%
3	70L	3	5.90	63.65	375.5	375.5	100%
4	70L	3	0.00	360.65	0.0	2127.8	0%
5	70L	4	5.90	63.65	375.5	375.5	100%
6	70L	4	0.00	360.65	0.0	2127.8	0%
<i>Totals:</i>					1105.7	7510.1	15%

Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)

Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	25.48	60.11	1531.6	1531.6	100%
2	45L	11	0.00	364.19	0.0	9279.6	0%
3	45S	11	25.48	60.11	1531.6	1531.6	100%
4	45S	11	0.00	364.19	0.0	9279.6	0%
5	45L	3	25.48	63.65	1621.8	1621.8	100%
6	45L	3	0.00	360.65	0.0	9189.4	0%
7	45S	3	25.48	63.65	1621.8	1621.8	100%
8	45S	3	0.00	360.65	0.0	9189.4	0%
9	45L	4	25.48	63.65	1621.8	1621.8	100%
10	45L	4	0.00	360.65	0.0	9189.4	0%
11	45L	4	25.48	63.65	1621.8	1621.8	100%
12	45L	4	0.00	360.65	0.0	9189.4	0%
<i>Totals:</i>					9550.4	64867.0	15%

Sketch 19
5-8-13

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W35
MERIDIONAL @ 270 DEGREES
 SALEM-1 WELD NO.: 1-RPV-1043A

SCAN PLAN DRAWING NO.: 6007161E-01
 AGGREGATE COVERAGE OBTAINED: 59%

Zone Coverage Obtained							
Weld: 59%				Adjacent Base Metal: 59%			
Examination Volume Definition							
Weld Length: 64.5 in.							
Area Measurement				Volume Calculation			
Weld: Near Surface		1.68 sq. in.		Weld: Near Surface		108.4 cu. in.	
Weld: Balance of Volume		6.02 sq. in.		Weld: Balance of Volume		388.3 cu. in.	
Base Metal: Near Surface		5.43 sq. in.		Base Metal: Near Surface		350.2 cu. in.	
Base Metal: Balance of Volume		24.67 sq. in.		Base Metal: Balance of Volume		1591.2 cu. in.	
Examination Coverage Calculations							
WELD							
Weld (Near Surface Region B-C-H-I)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	1.68	38.06	63.9	63.9	100%
2	70L	11	0.00	26.44	0.0	44.4	0%
3	70L	12	1.68	38.06	63.9	63.9	100%
4	70L	12	0.00	26.44	0.0	44.4	0%
5	70L	3	1.68	38.06	63.9	63.9	100%
6	70L	3	0.00	26.44	0.0	44.4	0%
7	70L	4	1.68	38.06	63.9	63.9	100%
8	70L	4	0.00	26.44	0.0	44.4	0%
Totals:					255.8	433.4	59%
Weld (Balance of Volume Region G-H-I-J)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	6.02	38.06	229.1	229.1	100%
2	45L	11	0.00	26.44	0.0	159.2	0%
3	45L	12	6.02	38.06	229.1	229.1	100%
4	45L	12	0.00	26.44	0.0	159.2	0%
5	45L	3	6.02	38.06	229.1	229.1	100%
6	45L	3	0.00	26.44	0.0	159.2	0%
7	45L	4	6.02	38.06	229.1	229.1	100%
8	45L	4	0.00	26.44	0.0	159.2	0%
9	45S	11	6.02	38.06	229.1	229.1	100%
10	45S	11	0.00	26.44	0.0	159.2	0%
11	45S	12	6.02	38.06	229.1	229.1	100%
12	45S	12	0.00	26.44	0.0	159.2	0%
13	45S	3	6.02	38.06	229.1	229.1	100%
14	45S	3	0.00	26.44	0.0	159.2	0%
15	45S	4	6.02	38.06	229.1	229.1	100%
16	45S	4	0.00	26.44	0.0	159.2	0%
Totals:					1833.0	3106.3	59%
BASE METAL							
Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	5.43	38.06	206.7	206.7	100%
2	70L	11	0.00	26.44	0.0	143.6	0%
3	70L	3	5.43	38.06	206.7	206.7	100%
4	70L	3	0.00	26.44	0.0	143.6	0%
5	70L	4	5.43	38.06	206.7	206.7	100%
6	70L	4	0.00	26.44	0.0	143.6	0%
Totals:					620.0	1050.7	59%
Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	24.67	38.06	938.9	938.9	100%
2	45L	11	0.00	26.44	0.0	652.3	0%
3	45L	3	24.67	38.06	938.9	938.9	100%
4	45L	3	0.00	26.44	0.0	652.3	0%
5	45L	4	24.67	38.06	938.9	938.9	100%
6	45L	4	0.00	26.44	0.0	652.3	0%
7	45S	11	24.67	38.06	938.9	938.9	100%
8	45S	11	0.00	26.44	0.0	652.3	0%
9	45S	3	24.67	38.06	938.9	938.9	100%
10	45S	3	0.00	26.44	0.0	652.3	0%
11	45S	4	24.67	38.06	938.9	938.9	100%
12	45S	4	0.00	26.44	0.0	652.3	0%
Totals:					5633.7	9547.3	59%

Sketch 19
6/8/13

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W36
MERIDIONAL @ 330 DEGREES
 SALEM-1 WELD NO.: 1-RPV-1043B

SCAN PLAN DRAWING NO.: 6007161E-01
 AGGREGATE COVERAGE OBTAINED: 59%

Zone Coverage Obtained							
Weld: 59%				Adjacent Base Metal: 59%			
Examination Volume Definition							
Weld Length: 64.5 in.							
Area Measurement				Volume Calculation			
Weld: Near Surface		1.68 sq. in.		Weld: Near Surface		108.4 cu. in.	
Weld: Balance of Volume		6.02 sq. in.		Weld: Balance of Volume		388.3 cu. in.	
Base Metal: Near Surface		5.43 sq. in.		Base Metal: Near Surface		350.2 cu. in.	
Base Metal: Balance of Volume		24.67 sq. in.		Base Metal: Balance of Volume		1591.2 cu. in.	
Examination Coverage Calculations							
WELD							
Weld (Near Surface Region B-C-H-I)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	1.68	38.06	63.9	63.9	100%
2	70L	11	0.00	26.44	0.0	44.4	0%
3	70L	12	1.68	38.06	63.9	63.9	100%
4	70L	12	0.00	26.44	0.0	44.4	0%
5	70L	3	1.68	38.06	63.9	63.9	100%
6	70L	3	0.00	26.44	0.0	44.4	0%
7	70L	4	1.68	38.06	63.9	63.9	100%
8	70L	4	0.00	26.44	0.0	44.4	0%
<i>Totals:</i>					255.8	433.4	59%
Weld (Balance of Volume Region G-H-I-J)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	6.02	38.06	229.1	229.1	100%
2	45L	11	0.00	26.44	0.0	159.2	0%
3	45L	12	6.02	38.06	229.1	229.1	100%
4	45L	12	0.00	26.44	0.0	159.2	0%
5	45L	3	6.02	38.06	229.1	229.1	100%
6	45L	3	0.00	26.44	0.0	159.2	0%
7	45L	4	6.02	38.06	229.1	229.1	100%
8	45L	4	0.00	26.44	0.0	159.2	0%
9	45S	11	6.02	38.06	229.1	229.1	100%
10	45S	11	0.00	26.44	0.0	159.2	0%
11	45S	12	6.02	38.06	229.1	229.1	100%
12	45S	12	0.00	26.44	0.0	159.2	0%
13	45S	3	6.02	38.06	229.1	229.1	100%
14	45S	3	0.00	26.44	0.0	159.2	0%
15	45S	4	6.02	38.06	229.1	229.1	100%
16	45S	4	0.00	26.44	0.0	159.2	0%
<i>Totals:</i>					1833.0	3106.3	59%
BASE METAL							
Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	5.43	38.06	206.7	206.7	100%
2	70L	11	0.00	26.44	0.0	143.6	0%
3	70L	3	5.43	38.06	206.7	206.7	100%
4	70L	3	0.00	26.44	0.0	143.6	0%
5	70L	4	5.43	38.06	206.7	206.7	100%
6	70L	4	0.00	26.44	0.0	143.6	0%
<i>Totals:</i>					620.0	1050.7	59%
Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	24.67	38.06	938.9	938.9	100%
2	45L	11	0.00	26.44	0.0	652.3	0%
3	45L	3	24.67	38.06	938.9	938.9	100%
4	45L	3	0.00	26.44	0.0	652.3	0%
5	45L	4	24.67	38.06	938.9	938.9	100%
6	45L	4	0.00	26.44	0.0	652.3	0%
7	45S	11	24.67	38.06	938.9	938.9	100%
8	45S	11	0.00	26.44	0.0	652.3	0%
9	45S	3	24.67	38.06	938.9	938.9	100%
10	45S	3	0.00	26.44	0.0	652.3	0%
11	45S	4	24.67	38.06	938.9	938.9	100%
12	45S	4	0.00	26.44	0.0	652.3	0%
<i>Totals:</i>					5633.7	9547.3	59%

Sketch 19
7/13

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W31
MERIDIONAL @ 30 DEGREES
 SALEM-1 WELD NO.: 1-RPV-1043C

SCAN PLAN DRAWING NO.: 6007161E-01
 AGGREGATE COVERAGE OBTAINED: 59%

Zone Coverage Obtained							
Weld: 59%				Adjacent Base Metal: 59%			
Examination Volume Definition							
Weld Length: 64.5 in.							
Area Measurement				Volume Calculation			
Weld: Near Surface		1.68 sq. in.		Weld: Near Surface		108.4 cu. in.	
Weld: Balance of Volume		6.02 sq. in.		Weld: Balance of Volume		388.3 cu. in.	
Base Metal: Near Surface		5.43 sq. in.		Base Metal: Near Surface		350.2 cu. in.	
Base Metal: Balance of Volume		24.67 sq. in.		Base Metal: Balance of Volume		1591.2 cu. in.	
Examination Coverage Calculations							
WELD							
Weld (Near Surface Region B-C-H-I)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	1.68	38.06	63.9	63.9	100%
2	70L	11	0.00	26.44	0.0	44.4	0%
3	70L	12	1.68	38.06	63.9	63.9	100%
4	70L	12	0.00	26.44	0.0	44.4	0%
5	70L	3	1.68	38.06	63.9	63.9	100%
6	70L	3	0.00	26.44	0.0	44.4	0%
7	70L	4	1.68	38.06	63.9	63.9	100%
8	70L	4	0.00	26.44	0.0	44.4	0%
Totals:					255.8	433.4	59%
Weld (Balance of Volume Region G-H-I-J)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	6.02	38.06	229.1	229.1	100%
2	45L	11	0.00	26.44	0.0	159.2	0%
3	45L	12	6.02	38.06	229.1	229.1	100%
4	45L	12	0.00	26.44	0.0	159.2	0%
5	45L	3	6.02	38.06	229.1	229.1	100%
6	45L	3	0.00	26.44	0.0	159.2	0%
7	45L	4	6.02	38.06	229.1	229.1	100%
8	45L	4	0.00	26.44	0.0	159.2	0%
9	45S	11	6.02	38.06	229.1	229.1	100%
10	45S	11	0.00	26.44	0.0	159.2	0%
11	45S	12	6.02	38.06	229.1	229.1	100%
12	45S	12	0.00	26.44	0.0	159.2	0%
13	45S	3	6.02	38.06	229.1	229.1	100%
14	45S	3	0.00	26.44	0.0	159.2	0%
15	45S	4	6.02	38.06	229.1	229.1	100%
16	45S	4	0.00	26.44	0.0	159.2	0%
Totals:					1833.0	3106.3	59%
BASE METAL							
Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	5.43	38.06	206.7	206.7	100%
2	70L	11	0.00	26.44	0.0	143.6	0%
3	70L	3	5.43	38.06	206.7	206.7	100%
4	70L	3	0.00	26.44	0.0	143.6	0%
5	70L	4	5.43	38.06	206.7	206.7	100%
6	70L	4	0.00	26.44	0.0	143.6	0%
Totals:					620.0	1050.7	59%
Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	24.67	38.06	938.9	938.9	100%
2	45L	11	0.00	26.44	0.0	652.3	0%
3	45L	3	24.67	38.06	938.9	938.9	100%
4	45L	3	0.00	26.44	0.0	652.3	0%
5	45L	4	24.67	38.06	938.9	938.9	100%
6	45L	4	0.00	26.44	0.0	652.3	0%
7	45S	11	24.67	38.06	938.9	938.9	100%
8	45S	11	0.00	26.44	0.0	652.3	0%
9	45S	3	24.67	38.06	938.9	938.9	100%
10	45S	3	0.00	26.44	0.0	652.3	0%
11	45S	4	24.67	38.06	938.9	938.9	100%
12	45S	4	0.00	26.44	0.0	652.3	0%
Totals:					5633.7	9547.3	59%

Sketch 19
8/13

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W32
MERIDIONAL @ 90 DEGREES
 SALEM-1 WELD NO.: 1-RPV-1043D

SCAN PLAN DRAWING NO.: 6007161E-01
 AGGREGATE COVERAGE OBTAINED: 59%

Zone Coverage Obtained							
Weld: 59%				Adjacent Base Metal: 59%			
Examination Volume Definition							
Weld Length: 64.5 in.							
Area Measurement				Volume Calculation			
Weld: Near Surface		1.68 sq. in.		Weld: Near Surface		108.4 cu. in.	
Weld: Balance of Volume		6.02 sq. in.		Weld: Balance of Volume		388.3 cu. in.	
Base Metal: Near Surface		5.43 sq. in.		Base Metal: Near Surface		350.2 cu. in.	
Base Metal: Balance of Volume		24.67 sq. in.		Base Metal: Balance of Volume		1591.2 cu. in.	
Examination Coverage Calculations							
WELD							
Weld (Near Surface Region B-C-H-I)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	1.68	38.06	63.9	63.9	100%
2	70L	11	0.00	26.44	0.0	44.4	0%
3	70L	12	1.68	38.06	63.9	63.9	100%
4	70L	12	0.00	26.44	0.0	44.4	0%
5	70L	3	1.68	38.06	63.9	63.9	100%
6	70L	3	0.00	26.44	0.0	44.4	0%
7	70L	4	1.68	38.06	63.9	63.9	100%
8	70L	4	0.00	26.44	0.0	44.4	0%
Totals:					255.8	433.4	59%
Weld (Balance of Volume Region G-H-I-J)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	6.02	38.06	229.1	229.1	100%
2	45L	11	0.00	26.44	0.0	159.2	0%
3	45L	12	6.02	38.06	229.1	229.1	100%
4	45L	12	0.00	26.44	0.0	159.2	0%
5	45L	3	6.02	38.06	229.1	229.1	100%
6	45L	3	0.00	26.44	0.0	159.2	0%
7	45L	4	6.02	38.06	229.1	229.1	100%
8	45L	4	0.00	26.44	0.0	159.2	0%
9	45S	11	6.02	38.06	229.1	229.1	100%
10	45S	11	0.00	26.44	0.0	159.2	0%
11	45S	12	6.02	38.06	229.1	229.1	100%
12	45S	12	0.00	26.44	0.0	159.2	0%
13	45S	3	6.02	38.06	229.1	229.1	100%
14	45S	3	0.00	26.44	0.0	159.2	0%
15	45S	4	6.02	38.06	229.1	229.1	100%
16	45S	4	0.00	26.44	0.0	159.2	0%
Totals:					1833.0	3106.3	59%
BASE METAL							
Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	5.43	38.06	206.7	206.7	100%
2	70L	11	0.00	26.44	0.0	143.6	0%
3	70L	3	5.43	38.06	206.7	206.7	100%
4	70L	3	0.00	26.44	0.0	143.6	0%
5	70L	4	5.43	38.06	206.7	206.7	100%
6	70L	4	0.00	26.44	0.0	143.6	0%
Totals:					620.0	1050.7	59%
Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	24.67	38.06	938.9	938.9	100%
2	45L	11	0.00	26.44	0.0	652.3	0%
3	45L	3	24.67	38.06	938.9	938.9	100%
4	45L	3	0.00	26.44	0.0	652.3	0%
5	45L	4	24.67	38.06	938.9	938.9	100%
6	45L	4	0.00	26.44	0.0	652.3	0%
7	45S	11	24.67	38.06	938.9	938.9	100%
8	45S	11	0.00	26.44	0.0	652.3	0%
9	45S	3	24.67	38.06	938.9	938.9	100%
10	45S	3	0.00	26.44	0.0	652.3	0%
11	45S	4	24.67	38.06	938.9	938.9	100%
12	45S	4	0.00	26.44	0.0	652.3	0%
Totals:					5633.7	9547.3	59%

Sketch 19
9713

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W33
MERIDIONAL @ 150 DEGREES
 SALEM-1 WELD NO.: 1-RPV-1043E

SCAN PLAN DRAWING NO.: 6007161E-01
 AGGREGATE COVERAGE OBTAINED: 59%

Zone Coverage Obtained							
Weld: 59%				Adjacent Base Metal: 59%			
Examination Volume Definition							
Weld Length: 64.5 in.							
Area Measurement				Volume Calculation			
Weld: Near Surface		1.68 sq. in.		Weld: Near Surface		108.4 cu. in.	
Weld: Balance of Volume		6.02 sq. in.		Weld: Balance of Volume		388.3 cu. in.	
Base Metal: Near Surface		5.43 sq. in.		Base Metal: Near Surface		350.2 cu. in.	
Base Metal: Balance of Volume		24.67 sq. in.		Base Metal: Balance of Volume		1591.2 cu. in.	
Examination Coverage Calculations							
WELD							
Weld (Near Surface Region B-C-H-I)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	1.68	38.06	63.9	63.9	100%
2	70L	11	0.00	26.44	0.0	44.4	0%
3	70L	12	1.68	38.06	63.9	63.9	100%
4	70L	12	0.00	26.44	0.0	44.4	0%
5	70L	3	1.68	38.06	63.9	63.9	100%
6	70L	3	0.00	26.44	0.0	44.4	0%
7	70L	4	1.68	38.06	63.9	63.9	100%
8	70L	4	0.00	26.44	0.0	44.4	0%
<i>Totals:</i>					255.8	433.4	59%
Weld (Balance of Volume Region G-H-I-J)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	6.02	38.06	229.1	229.1	100%
2	45L	11	0.00	26.44	0.0	159.2	0%
3	45L	12	6.02	38.06	229.1	229.1	100%
4	45L	12	0.00	26.44	0.0	159.2	0%
5	45L	3	6.02	38.06	229.1	229.1	100%
6	45L	3	0.00	26.44	0.0	159.2	0%
7	45L	4	6.02	38.06	229.1	229.1	100%
8	45L	4	0.00	26.44	0.0	159.2	0%
9	45S	11	6.02	38.06	229.1	229.1	100%
10	45S	11	0.00	26.44	0.0	159.2	0%
11	45S	12	6.02	38.06	229.1	229.1	100%
12	45S	12	0.00	26.44	0.0	159.2	0%
13	45S	3	6.02	38.06	229.1	229.1	100%
14	45S	3	0.00	26.44	0.0	159.2	0%
15	45S	4	6.02	38.06	229.1	229.1	100%
16	45S	4	0.00	26.44	0.0	159.2	0%
<i>Totals:</i>					1833.0	3106.3	59%
BASE METAL							
Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	5.43	38.06	206.7	206.7	100%
2	70L	11	0.00	26.44	0.0	143.6	0%
3	70L	3	5.43	38.06	206.7	206.7	100%
4	70L	3	0.00	26.44	0.0	143.6	0%
5	70L	4	5.43	38.06	206.7	206.7	100%
6	70L	4	0.00	26.44	0.0	143.6	0%
<i>Totals:</i>					620.0	1050.7	59%
Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	24.67	38.06	938.9	938.9	100%
2	45L	11	0.00	26.44	0.0	652.3	0%
3	45L	3	24.67	38.06	938.9	938.9	100%
4	45L	3	0.00	26.44	0.0	652.3	0%
5	45L	4	24.67	38.06	938.9	938.9	100%
6	45L	4	0.00	26.44	0.0	652.3	0%
7	45S	11	24.67	38.06	938.9	938.9	100%
8	45S	11	0.00	26.44	0.0	652.3	0%
9	45S	3	24.67	38.06	938.9	938.9	100%
10	45S	3	0.00	26.44	0.0	652.3	0%
11	45S	4	24.67	38.06	938.9	938.9	100%
12	45S	4	0.00	26.44	0.0	652.3	0%
<i>Totals:</i>					5633.7	9547.3	59%

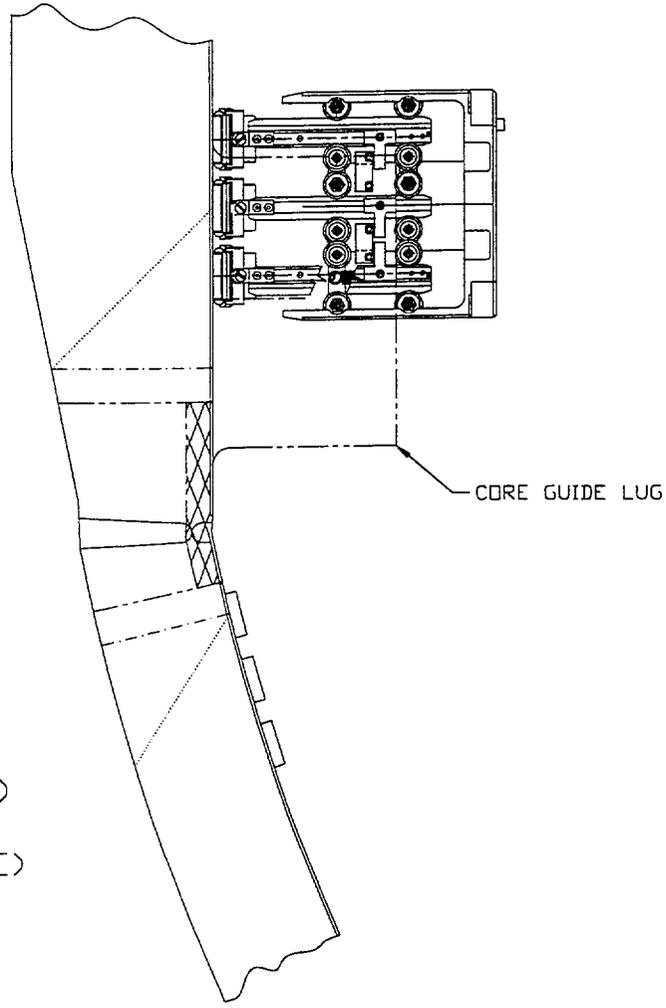
Sketch 19
10/13

SALEM-1 APPENDIX VIII
EXAMINATION COVERAGE FOR WELD: W34
MERIDIONAL @ 210 DEGREES
SALEM-1 WELD NO.: 1-RPV-1043F

SCAN PLAN DRAWING NO.: 6007161E-01
AGGREGATE COVERAGE OBTAINED: 59%

Zone Coverage Obtained							
Weld: 59%				Adjacent Base Metal: 59%			
Examination Volume Definition							
Weld Length: 64.5 in.							
Area Measurement				Volume Calculation			
Weld: Near Surface		1.68 sq. in.		Weld: Near Surface		108.4 cu. in.	
Weld: Balance of Volume		6.02 sq. in.		Weld: Balance of Volume		388.3 cu. in.	
Base Metal: Near Surface		5.43 sq. in.		Base Metal: Near Surface		350.2 cu. in.	
Base Metal: Balance of Volume		24.67 sq. in.		Base Metal: Balance of Volume		1591.2 cu. in.	
Examination Coverage Calculations							
WELD							
Weld (Near Surface Region B-C-H-I)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	1.68	38.06	63.9	63.9	100%
2	70L	11	0.00	26.44	0.0	44.4	0%
3	70L	12	1.68	38.06	63.9	63.9	100%
4	70L	12	0.00	26.44	0.0	44.4	0%
5	70L	3	1.68	38.06	63.9	63.9	100%
6	70L	3	0.00	26.44	0.0	44.4	0%
7	70L	4	1.68	38.06	63.9	63.9	100%
8	70L	4	0.00	26.44	0.0	44.4	0%
Totals:					255.8	433.4	59%
Weld (Balance of Volume Region G-H-I-J)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	6.02	38.06	229.1	229.1	100%
2	45L	11	0.00	26.44	0.0	159.2	0%
3	45L	12	6.02	38.06	229.1	229.1	100%
4	45L	12	0.00	26.44	0.0	159.2	0%
5	45L	3	6.02	38.06	229.1	229.1	100%
6	45L	3	0.00	26.44	0.0	159.2	0%
7	45L	4	6.02	38.06	229.1	229.1	100%
8	45L	4	0.00	26.44	0.0	159.2	0%
9	45S	11	6.02	38.06	229.1	229.1	100%
10	45S	11	0.00	26.44	0.0	159.2	0%
11	45S	12	6.02	38.06	229.1	229.1	100%
12	45S	12	0.00	26.44	0.0	159.2	0%
13	45S	3	6.02	38.06	229.1	229.1	100%
14	45S	3	0.00	26.44	0.0	159.2	0%
15	45S	4	6.02	38.06	229.1	229.1	100%
16	45S	4	0.00	26.44	0.0	159.2	0%
Totals:					1833.0	3106.3	59%
BASE METAL							
Adjacent Base Metal (Near Surface Region A-B-I-L and C-D-E-H)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	70L	11	5.43	38.06	206.7	206.7	100%
2	70L	11	0.00	26.44	0.0	143.6	0%
3	70L	3	5.43	38.06	206.7	206.7	100%
4	70L	3	0.00	26.44	0.0	143.6	0%
5	70L	4	5.43	38.06	206.7	206.7	100%
6	70L	4	0.00	26.44	0.0	143.6	0%
Totals:					620.0	1050.7	59%
Adjacent Base Metal (Balance of Volume Region E-F-G-H and I-J-K-L)							
Entry #	Exam. Angle (deg.)	Beam Direction	Area Examined (sq. in.)	Length Examined (in.)	Volume Examined (cu. in.)	Volume Required (cu. in.)	Percent Examined
1	45L	11	24.67	38.06	938.9	938.9	100%
2	45L	11	0.00	26.44	0.0	652.3	0%
3	45L	3	24.67	38.06	938.9	938.9	100%
4	45L	3	0.00	26.44	0.0	652.3	0%
5	45L	4	24.67	38.06	938.9	938.9	100%
6	45L	4	0.00	26.44	0.0	652.3	0%
7	45S	11	24.67	38.06	938.9	938.9	100%
8	45S	11	0.00	26.44	0.0	652.3	0%
9	45S	3	24.67	38.06	938.9	938.9	100%
10	45S	3	0.00	26.44	0.0	652.3	0%
11	45S	4	24.67	38.06	938.9	938.9	100%
12	45S	4	0.00	26.44	0.0	652.3	0%
Totals:					5633.7	9547.3	59%

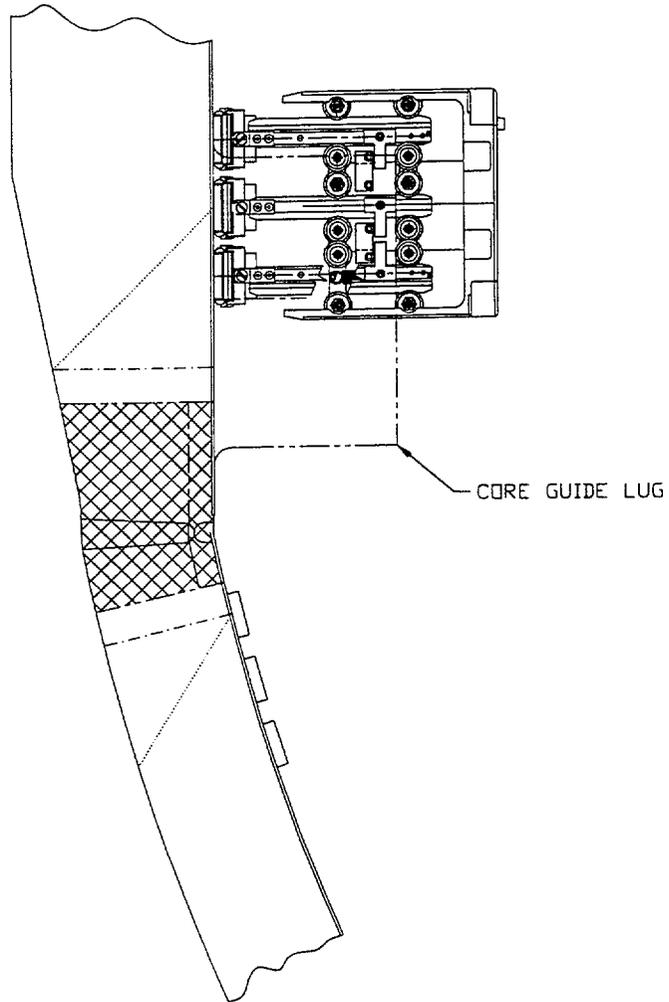
Sketch 19
11 of 13



W13
70°
WELD AREA (NEAR SURFACE)
=0.88 SQ IN.
BASE METAL (NEAR SURFACE)
=7.86 SQ IN.

NOTE: UNDER LUGS WAS NOT SCANNED DUE TO STAINLESS STEEL INSERTS NOT SHOWN ON CUSTOMER DRAWINGS SUPPLIED TO FTI-ANP.

Sketch 19
12/7/13



W13
45°L & 45°S
WELD AREA (BALANCE OF
VOLUME) = 4.94 SQ IN.
BASE METAL (BALANCE OF
VOLUME) = 38.24 SQ IN.

NOTE: UNDER LUGS WAS NOT SCANNED DUE
TO STAINLESS STEEL INSERTS NOT SHOWN
ON CUSTOMER DRAWINGS SUPPLIED TO
FTI-ANP.

Sketch 19
13/13