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L-2006-181  
10 CFR 50.36

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

Subject: Turkey Point Units 3 and 4  
Docket No. 50-250 and 50-251  
Response to Request for Additional Information (RAI)  
Regarding Third 10-year Inservice Inspection Interval Relief Requests 1A, 14A, 15A

By letter L-2006-050 dated February 20, 2006, Florida Power & Light Company (FPL) requested relief from certain requirements of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code Section XI, due to limitations that were identified during the third 10-year Inservice Inspection (ISI) Interval at Turkey Point Units 3 and 4. On June 16, 2006, the NRC Staff requested additional information needed to complete their review of Relief Requests 1A, 14A, and 15A.

Attachment 1 provides NRC's RAI questions and FPL's responses. Attachments 2, 3 and 4 provide the revised Relief Requests 1A, 14A, and 15A, respectively. Revision bars are included in the relief requests to identify the changes that resulted from the response to NRC's RAI questions. The attached Relief Requests 1A, 14A, and 15A supercede those submitted in FPL's letter L-2006-050, dated February 20, 2006.

Please contact Walter Parker at (305) 246-6632, if there are any questions.

Very truly yours,

Terry O. Jones  
Vice President  
Turkey Point Nuclear Plant

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Attachments

cc: Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point

AD47

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION  
TURKEY POINT UNITS 3 AND 4  
RELIEF REQUEST NOS. 1A, 14A, AND 15A  
DOCKET NOS. 50-250 AND 50-251

**General:**

1. Relief Requests 1A, 14A and 15A indicate that the third 10-year Inservice Inspection (ISI) interval ended February 21, 2004, for Unit 3 and April 14, 2004, for Unit 4. By letter dated October 20, 2004, the NRC authorized extension of the third 10-year interval to February 21, 2005, for Unit 3 and to April 14, 2005, for Unit 4. Please indicate the proper end dates for the Unit 3 and Unit 4 third 10-year ISI intervals.

**FPL Response to Question 1:**

For both Turkey Point Units 3 and 4 the third 10-year Inservice Inspection Interval included 1 year extension. Specifically, for Unit 3, the interval began on February 22, 1994 and ended February 21, 2005. Respectively, for Unit 4, the interval began on April 15, 1994 and ended April 14, 2005. These dates are referenced in attached Relief Requests 1A, 14A, and 15A.

The one year extension to 2005 was based on the provision of ASME Section XI, 1989 Edition, IWA 2430, No Addenda. FPL and NRC discussed this extension in a telecon and subsequently, FPL notified the Staff by letters L-2002-125, dated June 26, 2002, and L-2003-158, dated June 20, 2003 for Units 3 and 4, respectively.

For clarification, the above referenced October 20, 2004 NRC letter did not directly authorize the extension of the Third 10-year Inservice Inspection interval. Rather, it simply provided the approval of Relief Request 34, Alternative Through-Wall Sizing Requirements For Implementation of Appendix VIII, Supplement 10" and Relief Request 35 "Alternative Ultrasonic Examination For The Reactor Flange-To-Upper Shell Welds Using PDI Demonstrated Techniques". It was the FPL notification letter noted above that documented the Third 10-year Inservice Inspection Interval extension. It should be noted that the extension of the Third 10-year Inservice Inspection Interval will not result in an extension of the Fourth 10-year Inservice Inspection Interval for either unit.

**Relief Request 1A:**

2. In Florida Power and Light Company (FPL) letter dated February 20, 2006, it is stated the objective of Relief Request 1A is to resubmit the previously approved Relief Request No.1. The request also states that this revision submits the examination volume coverage obtained during the third 10-year ISI interval inspection. In comparing Relief Request 1 with Relief Request 1A, the upper shell-to-flange weld is included in both requests. Welds 3-DO-A, 3-DO-B, 3-DO-C, 4-DO-A, 4-DO-B, 4-DO-C are included in Relief Request 1, but they are not included in relief request 1A. Relief Request 1A contains additional examinations that had limited coverage, welds 3-WR-9 and 4-WR-9 and the 1-inch annular surface of flange surrounding each reactor vessel stud hole.

**Does Relief Request 1A supersede Relief Request 1, or is it in addition to Relief Request 1? If Relief Request 1A is to supersede Relief Request 1, was essentially full coverage obtained on welds 3-DO-A, 3-DO-B, 3-DO-C, 4-DO-A, 4-DO-B, 4-DO-C? If relief request 1A is to be in addition to relief request 1, is the request for relief with regard to welds 3-WR-18 and 4-WR-18 any different than the request for relief made under Relief Request 1 (other than 71 percent coverage was obtained vs. 68 percent projected)?**

**FPL Response to Question 2:**

Relief Request 1A supersedes Relief Request 1. Greater than 90 percent coverage was obtained for welds 3-DO-A, 3-DO-B, 3-DO-C, 4-DO-A, 4-DO-B, 4-DO-C outlet nozzles for Unit 3 and Unit 4.

The request for relief for the WR-18 weld in Relief Request 1A is the same as in Relief Request 1.

3. **Relief Request 1A states that the examination of the Figure 1 IWB-2500-12 A-B-C-D-E-F-G-H volume is limited when scanning the carbon steel base material surrounding the stud holes due to the sealing surfaces configuration. Please explain how the sealing surfaces configuration limits access to the required examination volume, and whether any alternate scanning angles can be used to achieve coverage in this area.**

**FPL Response to Question 3:**

As shown in Figure 3 of the Relief Request 1A, there is a step down groove (sealing surface) where the o-ring fits on the vessel in the area that is limited. This area has uneven surfaces that do not allow for examination to be performed. This examination is performed by scanning a 0-degree transducer around the stud holes on the RPV Flange. The smallest diameter transducer (1/2") allowed by the procedure was used for the examination. Alternate scanning angles would not achieve any additional coverage.

**Relief Request 14A**

4. **FPL letter dated February 20, 2006 states the objective of Relief Requests 14A and 15A is to resubmit the previously approved Relief Request 14 and 15 for Class 1 and 2 vessel inside radius, vessel welds, and piping welds that did not receive code required volume. In comparing Relief Request 14 and Relief Request 14A, there are 4 components (29"-RCS-1305-3, 8"-SI-2309-22, 8"-SI-2309-24, and 6"-BDA-2301-8) that are listed in Relief Request 14 but not in Relief Request 14A. Please explain why the 4 components are not included in Relief Request 14A.**

**FPL Response to Question 4:**

Welds 8"-SI-2309-22 and 8"-2309-24 were removed in Relief Request 14A because two additional welds with no limitations in the C-F-1 category were examined during the interval. As a result, the welds with the worst case limitations were moved to augmented status.

Removal of welds 6"-BDA-2301-8 and 29"-RCS-1305-3 was in error. They will be added back into Relief Request 14A.

5. **In Relief Request 14, component 3-SRGN-01-IR is listed under examination category B-D, Item No. B3.120, which is applicable to the Pressurizer. In Relief Request 14A, component 3-SRGN-01-IR is listed as applicable to examination category B-D, Item No. B3.140. Please explain this change in classification of component 3-SRGN-01-IR.**

**FPL Response to Question 5:**

This is a typographical error. The examination category is B-D, Item No. B3.120.

6. **Table 1 identifies the applicable code requirement for component "Spray Nozzle-SP-03-1-IR" as examination category B-D, Item No. B3.140, which is applicable to steam generators. Please clarify whether this is a pressurizer spray nozzle or if it is applicable to steam generators.**

**FPL Response to Question 6:**

This is a typographical error. This is the Pressurizer Spray Nozzle. The examination category is B-D, Item No. B3.120.

7. Table 1 of Relief Request 14A indicates 66-percent coverage from the elbow side for component 31"-RCS-1302-10 was achieved. Relief Request 14 indicates 75-percent coverage from the elbow side for component 31"-RCS-1302-10 was achieved. Please explain the difference in coverage reported between the FPL August 8, 1996, letter and the February 20, 2006, letter.

**FPL Response to Question 7:**

When calculating the coverage for weld 31"-RCS-1303-10, it was noticed that the CRV coverage was less than the previously calculated volume for weld 31"-RCS-1302-10 with the same configuration. Upon further evaluation, it was determined that the weld scanned in 1998 had the CRV calculated with the rules from PDI and the weld scanned in 1994 had the original CRV calculated with the rules prior to PDI. The original calculation for weld 31"-RCS-1302-10 as presented in Relief Request 14 is correct based on the techniques in place at the time of the examination.

8. Describe any flaws or relevant indications identified adjacent to the areas that could not be examined.

**FPL Response to Question 8:**

There were no relevant indications or flaws identified adjacent to the areas that could not be examined.

**Relief Request 15A:**

9. Describe any flaws or relevant indications identified adjacent to the areas that could not be examined.

**FPL Response to Question 9:**

There were no relevant indications or flaws identified adjacent to the areas that could not be examined.

**TURKEY POINT UNITS 3 AND 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 1A (Revised) Rev 1**

**Relief Request  
In Accordance with 10 CFR50.55a(g)(5)(iii)**

--Inservice Inspection Impracticality--

**1. ASME Code Component(s) Affected**

Class 1 pressure retaining welds in the reactor pressure vessel (RPV).

**2. Applicable Code Edition and Addenda**

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Rules for Inservice Inspection of Nuclear Power Plant Components, Section XI, 1989 Edition, No Addenda.

**3. Applicable Code Requirement**

Exam Cat.	Item No.	Examination Requirements
B-A	B1.21	Essentially 100% volumetric examination of all circumferential head welds.
B-A	B1.30	Essentially 100% volumetric examination of the shell to flange weld.
B-G-1	B6.40	Essentially 100% volumetric examination of the 1 inch annular surface of flange surrounding each stud hole.

As defined by 10CFR50.55a(g)(6)(ii)(A)(2) and ASME Code Case N-460, essentially 100% means more than 90% of the examination volume of each weld where reduction in coverage is due to interference by another component or part geometry.

**4. Impracticality of Compliance**

Due to the configuration of the Reactor Vessel, it is impractical to meet the examination coverage requirements of the ASME Code, Section XI, 1989 Edition, No Addenda, as clarified by Code Case N-460. Relief is requested in accordance with 10 CFR 50.55a(g)(5)(iii). These areas were found during the 3rd 10-year inservice inspection interval.

When examined, the welds or surfaces listed within this request did not receive the required code volume coverage due to their configuration and/or the presence of permanent attachments. These scanning limitations prohibit essentially 100% ultrasonic examination coverage of the required examination volume.

Described below, coupled with figures, are details of the examination limitations by weld or examination description. The accompanying figures graphically depict the extent of the limitations.

RPV Lower Head Ring-to-Bottom Head Weld (3-WR-9 and 4-WR-9)

**TURKEY POINT UNITS 3 AND 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 1A (Revised) Rev 1**

**Examination Category B-A, Item B1.21**

The examination of the Figure IWB-2500-3 A-B-C-D volume is limited due to the proximity of the instrumentation tubes. Access to approximately 17% of the examination volume is restricted. The remaining 83% of the examination volume was examined with techniques which have been qualified by demonstration in accordance with Supplements 4 & 6 of the 1995 Edition, 1996 Addenda of the ASME Code Section XI, Appendix VIII, using the Performance Demonstration Initiative Protocol. This weld was examined from both sides of the weld, scanning both parallel and perpendicular to the weld. The ultrasonic examination identified no recordable indications.

The mechanized scanning of the lower head ring-to-lower head welds 3-WR-9 and 4-WR-9 are limited due to interference from the instrumentation tubes. Figure 1 provides an illustration of the weld volume limitation due to the instrumentation tubes.

**RPV Upper Shell-to-Flange Weld (3-WR-18 and 4-WR-18)**

**Examination Category B-A, Item B1.30**

The examination of the Figure IWB-2500-4 A-B-C-D volume is limited due to the Keyways and Irradiation Slots. Access to approximately 29% of the examination volume is restricted. The remaining 71% of the examination volume was examined with ASME Code acceptable techniques. Additionally, the mechanized techniques employed for examination from the RPV inside surface have also been qualified by demonstration in accordance with Supplements 4 & 6 of the 1995 Edition, 1996 Addenda of the ASME Code Section XI, Appendix VIII, using the Performance Demonstration Initiative Protocol. This weld was examined from both sides of the weld, scanning both parallel and perpendicular. The ultrasonic examination did not reveal any recordable or reportable flaws in accordance with the ASME Code Section XI, 1989 Edition, No Addenda.

The upper shell-to-flange weld 3-WR-18 and 4-WR-18 is examined from the shell side and from the flange seal surface. The examination performed from the flange seal surface was not limited by configuration. Figure 2 shows the inside surface scan limitations and the location of the areas of incomplete coverage to the mechanized scanning due to the presence of the keyways and Irradiation slots.

**RPV Threads in Flange (3-Lig-1 thru 58 and 4-Lig-1 thru 58)**

**Examination Category B-G-1, Item B6.40**

The examination of the Figure IWB-2500-12 A-B-C-D-E-F-G-H volume is limited when scanning the carbon steel base material surrounding the stud holes due to the sealing surfaces configuration. Access to approximately 15.33% of the examination volume is restricted. The remaining 84.67% of the examination volume was examined with ASME Code acceptable techniques. The ultrasonic examination did not reveal any recordable or reportable flaws in accordance with the ASME Code Section XI, 1989 Edition, No Addenda.

The manual scanning of the 1 inch annulus surface around the RPV flange stud hole 3-Lig 1- 58 and 4-Lig1 thru 58 is performed from the RPV flange surface. Figure 3 provides an illustration of the RPV flange surface limitation due to interference from the sealing surface configuration. There is a step-down groove on the flange surface where the O-ring fits. This causes an unparallel surface to perform the 0-degree examination.

**TURKEY POINT UNITS 3 AND 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 1A (Revised) Rev 1**

**5. Burden Caused by Compliance**

It is not possible to obtain ultrasonic interrogation of greater than 90% of the required examination volume due to interference caused by configuration and/or permanent attachments. Examinations are performed to the maximum extent possible. The Ultrasonic (UT) techniques for each weld or surface were reviewed to determine if additional coverage could be achieved. For the welds or surfaces listed above, it was not possible to remove the obstruction without significant work, increased radiation exposure, and/or damage to the plant.

**6. Proposed Alternative and Basis for Use**

**Proposed Alternative**

- 1) Periodic system pressure tests in accordance with ASME Section XI Category B-P, Table IWB-2500-1.
- 2) Conduct ultrasonic examinations to the maximum extent possible.

**Basis**

FPL performed inservice examinations of selected welds and surfaces in accordance with the requirements of 10CFR50.55a, plant technical specifications, and the 1989 Edition, No Addenda, of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. When a component has conditions, which limit the examination volume, Florida Power and Light is required to submit the information to the enforcement and regulatory authorities having jurisdiction at the plant site. This Relief Request has been written to address areas where those types of conditions exist and the required amount of coverage was reduced below the minimum acceptable.

FPL performed mechanized ultrasonic examinations of the reactor vessel during the Unit 3 October 2004 and Unit 4 April 2005 refueling outage.

10 CFR 50.55a(g)(4) recognizes that throughout the service life of a nuclear power facility, components which are classified as ASME Code Class 1, Class 2, and Class 3 must meet the requirements set forth in the ASME Code to the extent practical within the limitations of design, geometry and materials of construction of the components.

By letter dated July 22, 2004, and supplemented August 19, 2004, FPL submitted relief request #35 to the U.S. Nuclear Regulatory Commission (NRC). The purpose of the relief request was to obtain permission to implement an alternative from certain provisions of the ASME Code, Section XI, 1989 Edition, No Addenda, contained in the 3rd 10-year interval inservice inspection (ISI) program. FPL proposed supplementing the ASME Section XI, 1989 Edition, No Addenda, Appendix I examination from the flange surface with the examination from the reactor vessel inside surface using procedures, equipment, and personnel qualified by demonstration to perform remote mechanized examination of the reactor vessel flange-to-shell weld from the inside surface in accordance with ASME Code 1995 Edition, 1996 Addenda, Section XI, Appendix VII, Supplements 4 and 6, in lieu of Section V, Article 4 requirements. The NRC authorized the proposed alternative by letter dated October 20, 2004 (TAC NO. MC3891). The accessible areas of the shell weld were examined with personnel, equipment and procedures that were qualified by demonstration in accordance with Supplements 4 and 6 of the 1995 Edition, 1996 Addenda of the ASME Code, Section XI, Appendix VIII, using the Performance Demonstration Initiative (PDI) protocol. These examinations were performed from both sides of the welds, scanning both parallel and perpendicular to the weld to the maximum extent possible. The examinations

**TURKEY POINT UNITS 3 AND 4  
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RELIEF REQUEST NUMBER 1A (Revised) Rev 1**

performed utilizing demonstrated and qualified techniques provided an equivalent or better examination than the requirements of the 1989 Edition, No Addenda, of ASME Section XI.

FPL performed ultrasonic examinations of the remaining reactor vessel welds in accordance with the requirements of 10 CFR 50.55a, plant technical specifications, and the 1989 Edition, No Addenda, of ASME Section XI to the maximum extent possible. Additionally, the mechanized techniques employed for examination from the RPV inside surface have also been demonstrated in accordance with Supplements 4 & 6 of the 1995 Edition, 1996 Addenda of the ASME Code Section XI, Appendix VIII, using the Performance Demonstration Initiative Protocol.

NRC letter dated March 31, 1995 (TAC NO. M87725 and M87726) approved the initial submittal of relief request #1. The previous submittal of the relief request was based upon the techniques utilized and the limitations encountered during the examination during the 2<sup>nd</sup> 10-year inservice inspection interval and detailed the anticipated examination volume coverage for the examinations performed during the 3<sup>rd</sup> 10-year inservice inspection interval examinations. This revision submits the examination volume coverage obtained during the 3<sup>rd</sup> 10-year inservice inspection interval inspection.

In addition to the required ultrasonic examination, the interior of the reactor vessel, including welded attachments, received a visual examination in accordance with Table IWB-2500-1, Examination Categories B-N-1, B-N-2 and B-N-3. The visual examinations revealed no relevant indications.

The subject welds were examined in the 2<sup>nd</sup> interval during the 10-year reactor vessel examination. These examinations did not reveal any recordable or reportable flaws during the previous examination.

The extent of examination volume achieved ultrasonically, the alternate scans performed, and the system pressure tests provide assurance of an acceptable level of quality and safety.

**7. Duration of Proposed Alternative**

**Third Inservice Inspection Interval**

Unit 3 – February 22, 1994 thru February 21, 2005 (This includes a 1 year extension per ASME Section XI, 1989 Edition, IWA 2430, No Addenda)

Unit 4 – April 15, 1994 thru April 14, 2005 (This includes a 1 year extension per ASME Section XI, 1989 Edition, IWA 2430, No Addenda)



**TURKEY POINT UNITS 3 AND 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 1A (Revised) Rev 1**

**8. References**

10CFR50.55a

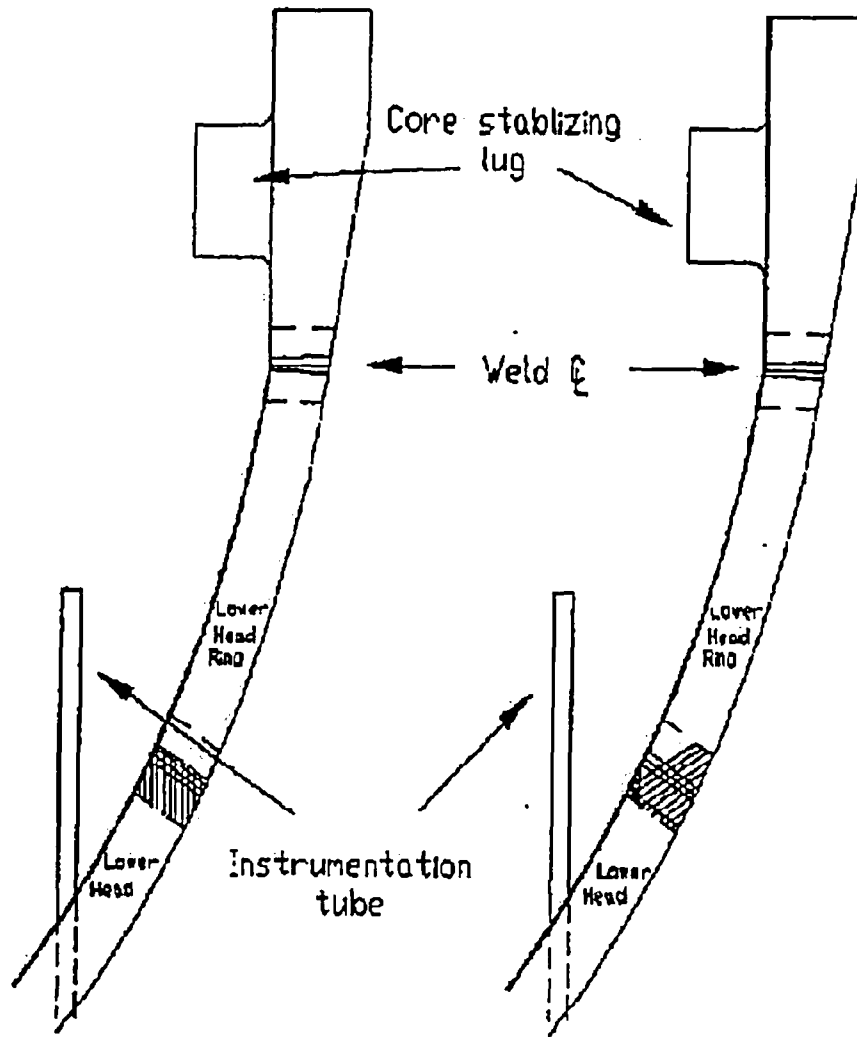
ASME Section XI, "Rules For Inservice Inspection of Nuclear Power Plant Components," 1989 Edition, No Addenda

ASME Section V, "Rules For Inservice Inspection of Nuclear Power Plant Components," 1989 Edition, No Addenda

ASME Section XI, Division 1, Code Case N-460, "Alternative Examination Coverage for Class 1 and Class 2 Welds, Section XI, Division 1"

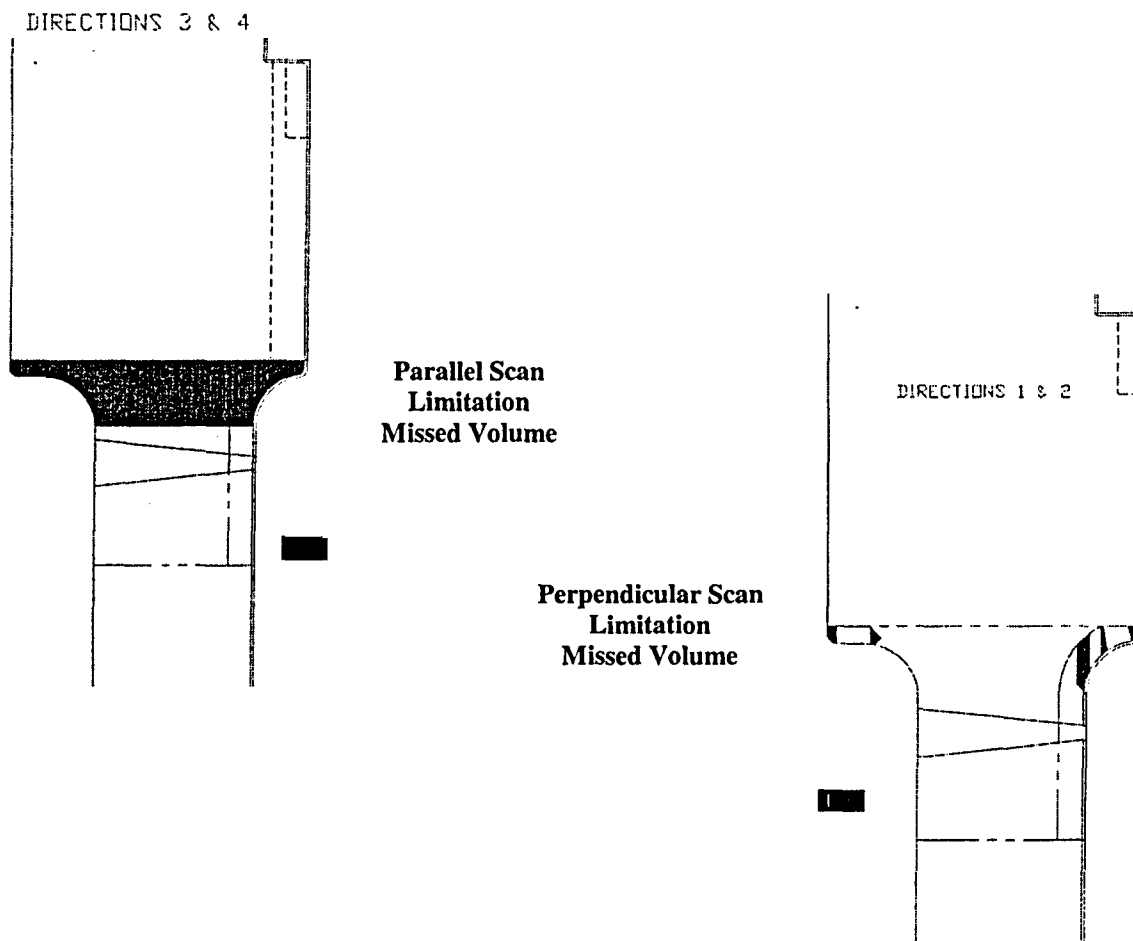
ASME Section XI, "Rules For Inservice Inspection of Nuclear Power Plant Components," 1995 Edition, 1996 Addenda

TURKEY POINT UNITS 3 AND 4  
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RELIEF REQUEST NUMBER 1A (Revised) Rev 1



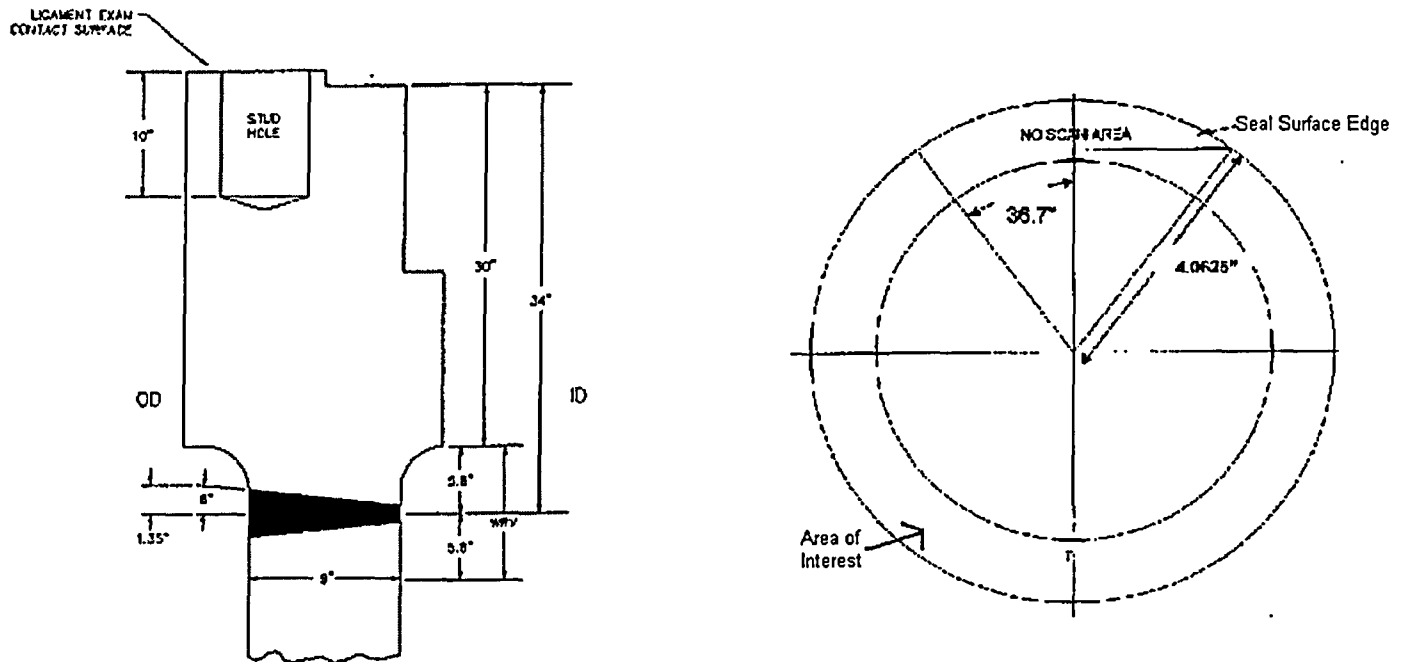
RPV Lower Head Ring-to-Bottom Head Weld (3-WR-9 and 4-WR-9)  
Figure 1

**TURKEY POINT UNITS 3 AND 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 1A (Revised) Rev 1**



Upper Shell to Flange Weld Volume Limitation Illustration  
Figure 2

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THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 1A (Revised) Rev 1



RPV Flange Ligament Volume Limitation Illustration  
Figure 3

**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1**

**Relief Request  
In Accordance with 10 CFR50.55a(g)(5)(iii)**

--Inservice Inspection Impracticability--

**1. ASME Code Component(s) Affected**

Class 1 inner radius in vessels  
Class 1 and 2 pressure retaining welds in vessel and piping

**2. Applicable Code Edition and Addenda**

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Rules for Inservice Inspection of Nuclear Power Plant Components, Section XI, 1989 Edition, No Addenda.

**3. Applicable Code Requirement**

Exam Cat.	Item No.	Examination Requirements
B-D	B3.120	Essentially 100% volumetric examination of the nozzle inner radius.
B-F	B5.70	Essentially 100% volumetric and surface examination of Circumferential welds for $\geq 4$ " nominal pipe size.
B-J	B9.11	Essentially 100% volumetric and surface examination of Circumferential welds for $\geq 4$ " nominal pipe size.
B-J	B9.31	Essentially 100% volumetric and surface examination of branch pipe connections NPS 4 or larger.
C-A	C1.10 C1.20	Essentially 100% volumetric examination of the weld length.
C-F-1	C5.11	Essentially 100% volumetric and surface examination of Circumferential welds for $\geq 4$ " nominal pipe size.
C-F-1	C5.21	Essentially 100% volumetric and surface examination of Circumferential welds for $> 1/5$ " nominal pipe size.
C-F-2	C5.51	Essentially 100% volumetric and surface examination of Circumferential welds for $\geq 4$ " nominal pipe size.

As defined by ASME Code Case N-460, essentially 100% means more than 90% of the examination volume of each weld where reduction in coverage is due to interference by another component or part geometry.

**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1**

**4. Impracticality of Compliance**

Due to the configuration of the welds included within this relief request, it is impractical to meet the examination coverage requirements of the ASME Code, Section XI, 1989 Edition, No Addenda, as clarified by Code Case N-460. Relief is requested in accordance with 10 CFR 50.55a(g)(5)(iii). These areas were found during the 3rd 10-year inservice inspection interval.

When a component has conditions, which limit the examination volume, Florida Power and Light is required to submit the information to the enforcement and regulatory authorities having jurisdiction at the plant site. This Relief Request has been written to address areas where those types of conditions exist and the required amount of coverage was reduced below the minimum acceptable.

When examined, the welds listed within this request did not receive the required code volume coverage due to their configuration and/or the presence of permanent attachments. These scanning limitations prohibit essentially 100% ultrasonic examination coverage of the required examination volume.

The Table 1 summarizes the percent of coverage achieved and references specific figures that show the extent of coverage. Arrows and lines on the figures illustrate the UT transducer beam direction and extent of the area examined.

Relief is requested from the ASME Boiler and Pressure Vessel Code required volume as identified in Figure IWB-2500-7, 8, and 10 and IWC-2500-1 and 7, as applicable.

**5. Burden Caused By Compliance**

Examinations are performed to the maximum extent possible. The ultrasonic (UT) techniques for each weld were reviewed to determine if additional coverage could be achieved. If practical, physical obstructions were removed. For the welds listed within Table 1, it was not possible to remove the obstruction without significant work, increased radiation exposure, and/or damage to the plant. Additional weld preparation by welding or metal removal is a modification of the examination area requiring significant engineering and construction personnel support. Increased radiation exposure and cost would be incurred in order to perform these modifications.

Radiography is impractical due to the amount of work being performed in the areas on a 24-hour basis. This would result in numerous work-related stoppages and increased exposure due to the shutdown of and startup of other work in the areas. The water must be drained from systems where radiography is performed, which increases the radiation dose rates over a much broader area than the weld being examined. There would be significant burden associated with the performance of weld or area modifications or radiography in order to increase the examination coverage.

**6. Proposed Alternative and Basis for Use**

**Proposed Alternative**

- 1) Surface examination per category B-F, B-J, C-F-1 and C-F-2.
- 2) Conduct ultrasonic examinations to the maximum extent possible.
- 3) Periodic system pressure tests in accordance with ASME Section XI Category B-P, Table IWB-2500-1 and Category C-H, Table IWC-2500-1.

**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1**

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**Basis**

FPL performed inservice examinations of selected welds in accordance with the requirements of 10CFR50.55a, plant technical specifications, and the 1989 Edition, no addenda, of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. When a component has conditions, which limit the examination volume, Florida Power and Light is required to submit the information to the enforcement and regulatory authorities having jurisdiction at the plant site. This Relief Request has been written to address areas where those types of conditions exist and the required amount of coverage was reduced below the minimum acceptable.

It is not possible to obtain ultrasonic interrogation of greater than 90% of the required examination volume due to interference caused by configuration and/or permanent attachments. Configuration, permanent attachments and/or structural interferences prohibit 100% ultrasonic examination of Code required volume. Additional ultrasonic techniques are employed where practical to achieve the code-required volume. The Table 1 summarizes the percent of coverage achieved and references specific figures that show the extent of coverage. Arrows and lines on the figures illustrate the UT transducer beam direction and extent of the area examined.

For examinations performed prior to the expedited implementation of Appendix VIII, Supplements 2 and 3 (May 22, 2000), the ultrasonic testing (UT) techniques for each weld were reviewed to determine if additional coverage could have been achieved. FPL's procedures require the examiner to consider whether additional coverage is necessary and practical. Those alternate techniques were investigated at the time of discovery. The alternate techniques considered were extending the calibration distance and/or using additional beam angles or modes. This has often provided the additional coverage needed to avoid relief. Using additional UT techniques on the weld examination areas in this relief request would have provided little or no additional coverage. The coverage obtained was the maximum practical.

For examinations performed after the 10 CFR 50.55a required expedited implementation of Appendix VII, supplements 2 and 3 (May 22, 2000), the ultrasonic testing (UT) was performed utilizing personnel qualified and procedures demonstrated in accordance with the Performance Demonstration Initiative (PDI) program. In the cases where austenitic materials were examined (Code Category B-J and C-F-1), the credited volumetric examination of the weld required volume (WRV) is limited when access can only be obtained from one side. It should be noted that the volumetric examination was performed through 100% of the Code WRV; however, the PDI Appendix VIII procedure used is not qualified for the detection of flaws on the far side of the single sided access examinations of austenitic piping welds. The techniques employed for the single sided examinations provided for a best effort examination. The coverage obtained was the maximum practical.

The required surface examinations were performed and were not limited. In all cases, 100 percent of the code required surface area was examined. These surface and volumetric examinations did not reveal any recordable or reportable flaws in the examination zone or adjacent to any volumetric limitations in accordance with the ASME Code Section XI, 1989 Edition, No Addenda.

For Category B-F, the Class 1 dissimilar metal piping welds have carbon steel nozzles buttered with stainless steel and field welded to forged stainless steel or cast stainless steel components with stainless steel weld material. All dissimilar metal weld examinations were performed prior to the expedited implementation of Appendix VIII, Supplements 10 (November 22, 2002). The ultrasonic testing (UT) techniques for each weld were reviewed to determine if additional coverage could have been achieved. FPL's procedures require the examiner to consider whether additional coverage is necessary and practical. Those alternate techniques were investigated at the time of discovery. The alternate techniques considered were extending the calibration distance and/or using additional beam angles or modes. This has often provided the additional coverage needed to avoid relief. Using additional UT techniques on the weld examination areas in this relief request would have provided little or no additional coverage. The coverage obtained was the maximum practical.

**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1**

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FPL performed the examinations to the extent possible. Operations personnel and system engineers perform walk downs of every system on a periodic basis looking for leakage or other abnormal conditions. Surface and volumetric examinations performed, along with the required system pressure tests, provide reasonable assurance of an acceptable level of quality and safety.

10 CFR 50.55a(g)(4) recognizes that throughout the service life of a nuclear power facility, components, which are classified as ASME Code Class 1, Class 2, and Class 3, must meet the requirements set forth in the ASME Code to the extent practical within the limitations of design, geometry and materials of construction of the components.

The extent of examination volume achieved ultrasonically and the alternate scans performed (reference Table 1) coupled with the system pressure tests provide assurance of an acceptable level of quality and safety.

**7. Duration of Proposed Alternative**

Third Inservice Inspection Interval  
February 22, 1994 to February 21, 2005 (This includes a 1 year extension per ASME Section XI, 1989 Edition, IWA 2430, No Addenda)

**8. References**

10 CFR 50.55a

ASME Section XI, Rules For In-service Inspection of Nuclear Power Plant Components, 1989 Edition, No Addenda.

ASME Section XI, Division 1, Code Case N-460, Alternative Examination coverage for Class 1 and Class 2 Welds, Section XI, Division 1.

ASME Section XI, Rules For In-service Inspection of Nuclear Power Plant Components, 1995 Edition, 1996 Addenda



**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1**

Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Inlet Nozzle to Inner Radius	3-SGA-I-IRS	2003	Exam Category B-D Item No. B3.140 Fig. IWB-2500-7(D) 70% Coverage Achieved	1	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Outlet Nozzle To Inner Radius	3-SGA-O-IRS	2003	Exam Category B-D Item No. B3.140 Fig. IWB-2500-7(D) 70% Coverage	2	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Inlet Nozzle To Inner Radius	3-SGB-I-IRS	1994	Exam Category B-D Item No. B3.140 Fig. IWB-2500-7(D) 70% Coverage Achieved	1	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Outlet Nozzle To Inner Radius	3-SGB-O-IRS	1994	Exam Category B-D Item No. B3.140 Fig. IWB-2500-7(D) 70% Coverage Achieved In Two Circumferential Directions Examined 1994	2	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Inlet Nozzle To Inner Radius	3-SGC-I-IRS	1998	Exam Category B-D Item No. B3.140 Fig. IWB-2500-7(D) 70% Coverage	1	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Outlet Nozzle To Inner Radius	3-SGC-O-IRS	1998	Exam Category B-D Item No. B3.140 Fig. IWB-2500-7(D) 70% Coverage Achieved	2	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Spray Nozzle Inner Radius	Spray Nozzle-SP-03-1-IR	1995	Exam Category B-D Item No. B3.120 Fig. IWB-2500-7(D) 70% Achieved	3	Inservice examination limited by configuration and raised letters welded in the examination zone

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Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Surge Nozzle Inner Radius	3-SRGN-01-IR	1994	Exam Category B-D Item No. B3.120 Fig. IWB-2500-7(D) 55% Achieved	4	Inservice examination limited by Pressurizer Heater Penetrations.
Elbow To SG Nozzle	29"-RCS-1305-4	1994	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 43% From Elbow Side 2% From Nozzle Side Examined	5	Inservice examination limited by configuration, examination is limited from the Elbow due to weld crown and Nozzle side due to taper.
Elbow To SG Nozzle	29"-RCS-1308-4	1998	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 47% From Elbow Side 0% From Nozzle Side Examined	6	Inservice examination limited by configuration, examination is limited from the Elbow due to weld crown and Nozzle side due to taper.
SG Nozzle To Elbow	31"-RCS-1302-5	1994	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 75% From Elbow Side 0% From Nozzle Side Examined	7	Inservice examination limited by configuration, examination is limited from the Elbow due to weld crown and Nozzle side due to taper.
SG Nozzle To Elbow	31"-RCS-1303-5	1998	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 62% From Elbow Side 0% From Nozzle Side Examined	8	Inservice examination limited by configuration, examination is limited from the Elbow due to weld crown and Nozzle side due to taper.
Elbow To Tee	4"-RC-1304-18 (4"-120)	1995	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 82% CRV Achieved	9	Inservice examination limited by configuration, examination is limited from Elbow and Tee side due to radius.

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Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Tee To Tee	4"-RC-1304-20 (4"-120)	1995	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 82% CRV	9	Inservice examination limited by configuration, examination is limited from both sides of the Tee side due to radius.
Branch Connection To Elbow	4"-RC-1305-1 (4"-120)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 87% From Branch Conn. Side 81% From Elbow Side	10	Inservice examination limited by configuration, examination is limited from Elbow due to weld crown and Branch Connection side.
Elbow To Valve	8"-RHR-1301-3 (8"-120)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Elbow Side 39% From Valve Side	11	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Valve side due to taper.
Pipe To Tee	8"-RHR-1304-8 (8"-120)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 67% From Pipe Side 55% From Tee Side	12	Inservice examination limited by configuration, examination is limited from Pipe side due to weld crown and Tee side due to radius.
Pipe To Pipe	8"-RHR-1305-2A (8"-120)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 70% From Upstream Pipe Side 70% From Downstream Pipe Side	13	Inservice examination limited by configuration, examination is limited from upstream and downstream Pipe side due to weld crown.
Pipe To Tee	8"-RHR-1305-3 (8"-120)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 67% From Pipe Side 99% From Tee Side	14	Inservice examination limited by configuration, examination is limited from Pipe side due to weld crown and Tee side due to radius.

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Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Elbow to Branch Connection	10"-SI-1302-1 (10"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Elbow Side 85% From Branch Connection Side	15	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Branch Connection side due to taper.
Elbow To Valve	10"-SI-1302-4 (10"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 85% From Elbow Side 25% From Valve Side	16	Inservice examination limited by configuration, examination is limited from Elbow side due to weld crown and Valve side due to taper.
Elbow To Valve	10"-SI-1303-11 (10"-140)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Elbow Side 4% From Valve Side	17	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Valve side due to taper.
Pipe To Branch Connection	10"-SI-1303-15 (10"-140)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Pipe Side 66% From Branch Conn. Side	18	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Branch Connection side due to taper.
Branch Connection To Pipe	12"-RCS-1301-1 (12"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Pipe Side 67% From Branch Connection Side	19	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Branch Connection side due to taper.

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Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Pipe To Valve	14"-RHR-1301-6 (14"-140)	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 86% From Pipe Side 8% From Valve Side	20	Inservice examination limited by configuration, examination is limited from Pipe side due to weld crown and Valve side due to taper.
10" Branch Connection	27.5"-RCS-1306-4	1995	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	21	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
Pump To Pipe	27.5"-RCS-1306-11	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 0% From Pump Side 100% From Pipe Side	22	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Pump side due to taper.
10" Branch Connection	27.5-RCS-1307-2	1995	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Pipe Side	21	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
10" Branch Connection	27.5"-RCS-1309-3	1995	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	21	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
Pump To Pipe	27.5"-RCS-1309-11	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 0% From Pump Side 87% From Pipe Side	23	Inservice examination limited by configuration, examination is limited from Pump side due to taper and Pipe side due to weld crown.

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Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Elbow to Pipe	29"-RCS-1305-3	1994	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 69% From Elbow Side 93% From Pipe Side	23A	Inservice examination limited by configuration, examination is limited from Elbow side due to taper and limited on pipe side due to 18" Branch connection
12" Branch Connection	29"-RCS-1305-BC3	1995	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	24	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
14" Branch Connection	29"-RCS-1308-BC-1	1995	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	25	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
Elbow To Pump	31"-RCS-1302-10	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 75% From Elbow Side 0% From Pump Side	26	Inservice examination limited by configuration, examination is limited from Elbow due to weld crown and Pump side due to taper.
Elbow To Pump	31"-RCS-1303-10	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 56% From Elbow Side 0% From Pump Side	26	Inservice examination limited by configuration, examination is limited from Elbow due to weld crown and Pump side due to taper.
Pipe To Elbow	31"-RCS-1303-7	1998	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 79% From Pipe Side 52% From Elbow Side	27	Inservice examination limited by configuration, examination is limited from Pipe and Elbow side due to weld crown.

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Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Head To Shell	3-RHE-A1	1997	Exam Category C-A Item No. C1.20 Fig. IWC-2500-1 95% From Head Side 57% From Shell Side	28	Inservice examination limited by configuration, examination is limited from the Head and Shell side due to support integral attachment, welded attachments and nozzle reinforcement plate.
Shell To Flange	3-RHE-A2	1997	Exam Category C-A Item No. C1.10 Fig. IWC-2500-1 71% From Shell Side 100% From Flange Side	29	Inservice examination limited by configuration, examination is limited from the Shell and Flange side due to support integral attachment, welded attachments and nozzle reinforcement plate.
Flange To Elbow	3"-SI-2301-1 (3"-80)	2001	Exam Category C-F-1 Item No. C5.21 Fig. IWC-2500-7(a) 100% From Elbow Side 0% From Flange Side	30	Inservice examination limited by configuration, examination performed with Appendix VIII demonstrated procedure, examination complete from Elbow side only and no exam performed from the Flange side due to taper.
Pipe To Valve	3"-SI-2301-4 (3"-80)	2001	Exam Category C-F-1 Item No. C5.21 Fig. IWC-2500-7(a) 100% From Pipe Side 0% From Valve Side	31	Inservice examination limited by configuration, examination performed with Appendix VIII demonstrated procedure, examination complete from Pipe side and no exam performed from the Valve side due to taper.
Reducer To Pipe	8"-SI-2303-1 (8"-120)	1998	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 62% From Pipe Side 50% From Reducer Side	32	Inservice examination limited by configuration, examination is limited from the Pipe side due to weld crown and Reducer side due to taper.
Valve To Pipe	10"-SI-2304-3 (10"-140)	1998	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 91% From Pipe Side 8% From Valve Side	33	Inservice examination limited by configuration, examination is limited from the Pipe side due to weld crown and Valve side due to taper.

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Table 1

ASME Code Component	Component ID	Year of Exam	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Valve To Elbow	14"-RHR-2301-1 (14"-40)	1995	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 84% From Valve Side 94% From Elbow Side	34	Inservice examination limited by configuration, examination is limited from the Valve side due to taper and Elbow side due to weld crown.
Valve to Pipe	6"-BDC-2303-6 (6"-160)	2003	Exam Category C-F-2 Item No. C5.51 Fig. IWC-2500-7(a) 0% From Valve Side 100% From Pipe Side	35	Inservice examination limited by configuration, examination performed with Appendix VIII demonstrated procedure, examination complete from Pipe side and no exam performed from the Valve side due to taper.
Pipe to Wye	6"-BDA-2301-8 (6"-160)	1994	Exam Category C-F-2 Item No. C5.51 Fig. IWC-2500-7(a) 50% From Wye Side 100% From Pipe Side	36	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Wye side due to taper.



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Figure 1

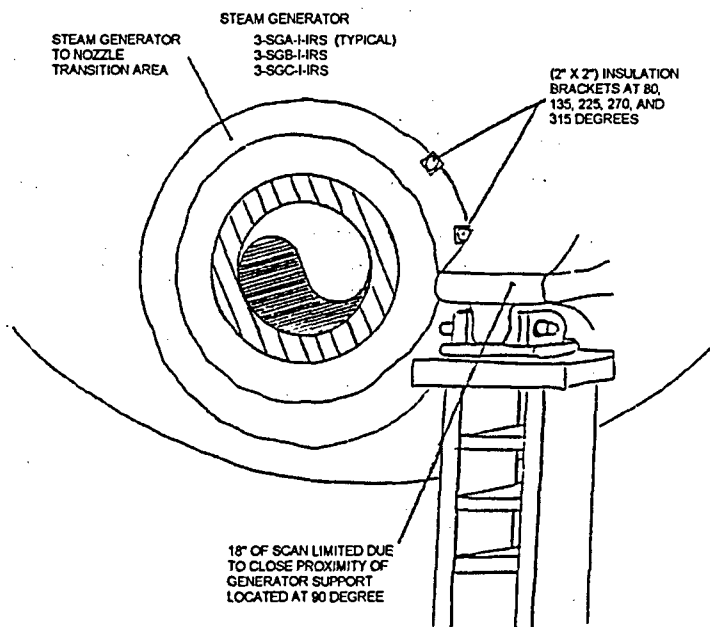
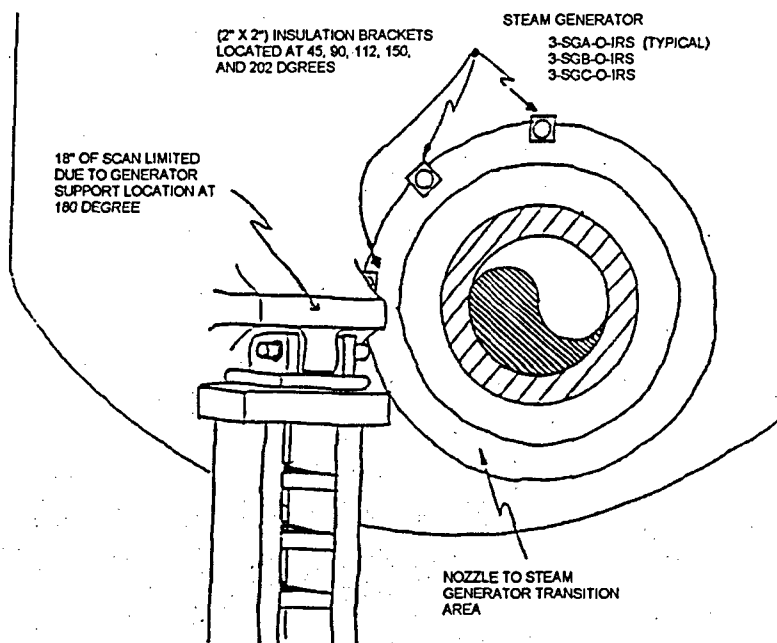


Figure 2



**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1**

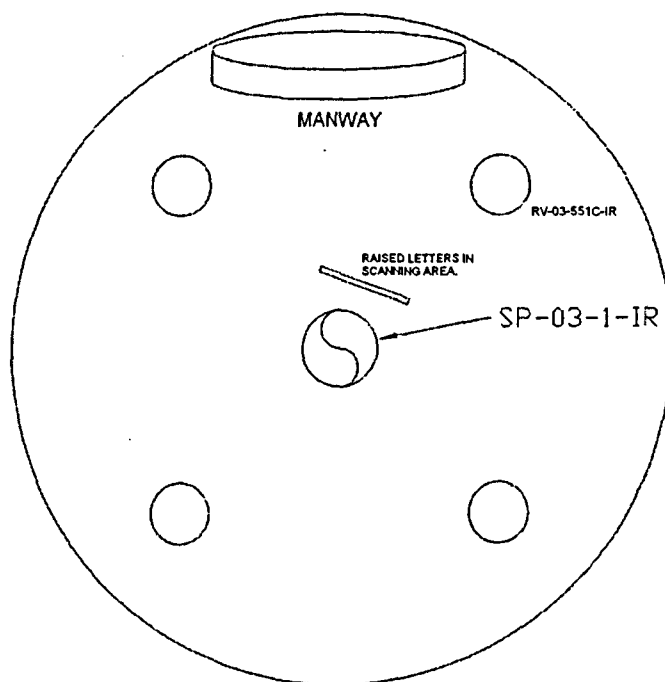


Figure 3

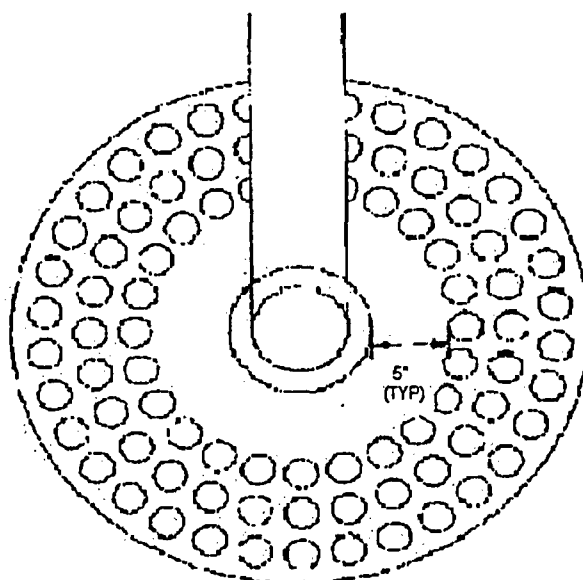


Figure 4

PRESSURIZER SURGE NOZZLE  
3-SRGN-01-IR

**TURKEY POINT UNIT 3**  
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29"-RCS-1305-4 (TYPICAL)

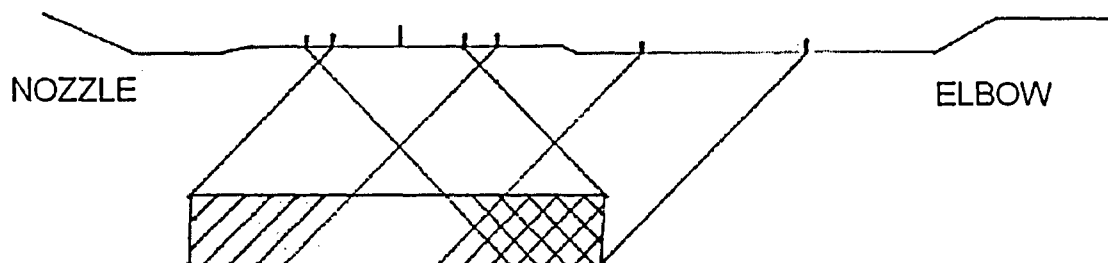


Figure 5

29"-RCS-1308-4 (TYPICAL)

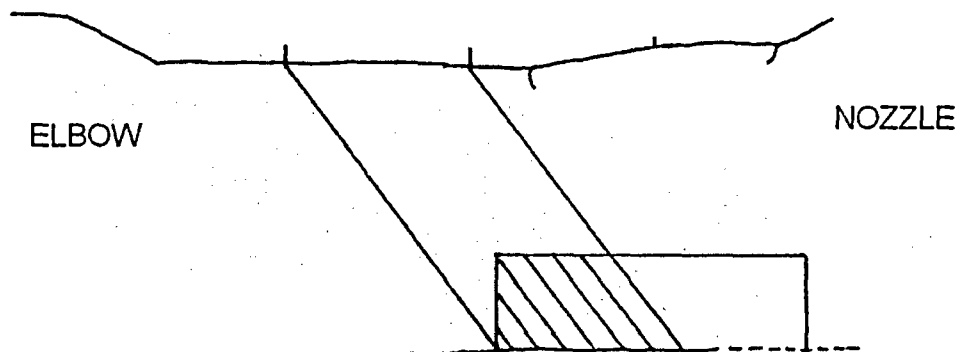


Figure 6

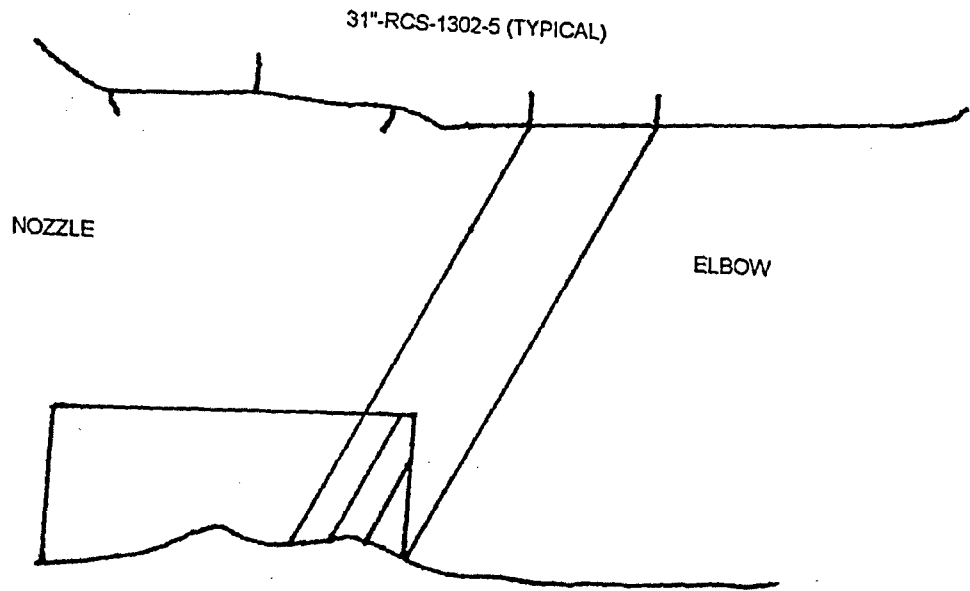


Figure 7

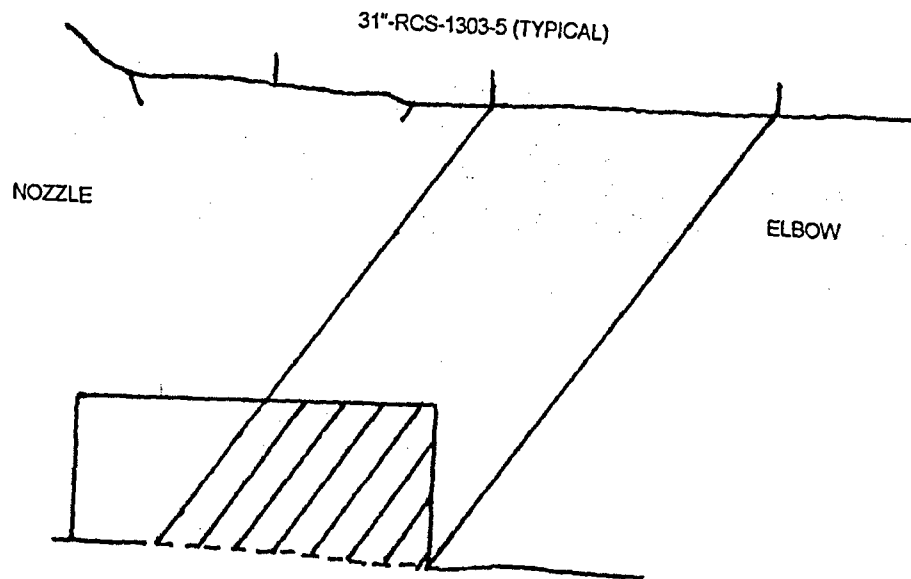


Figure 8

TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1

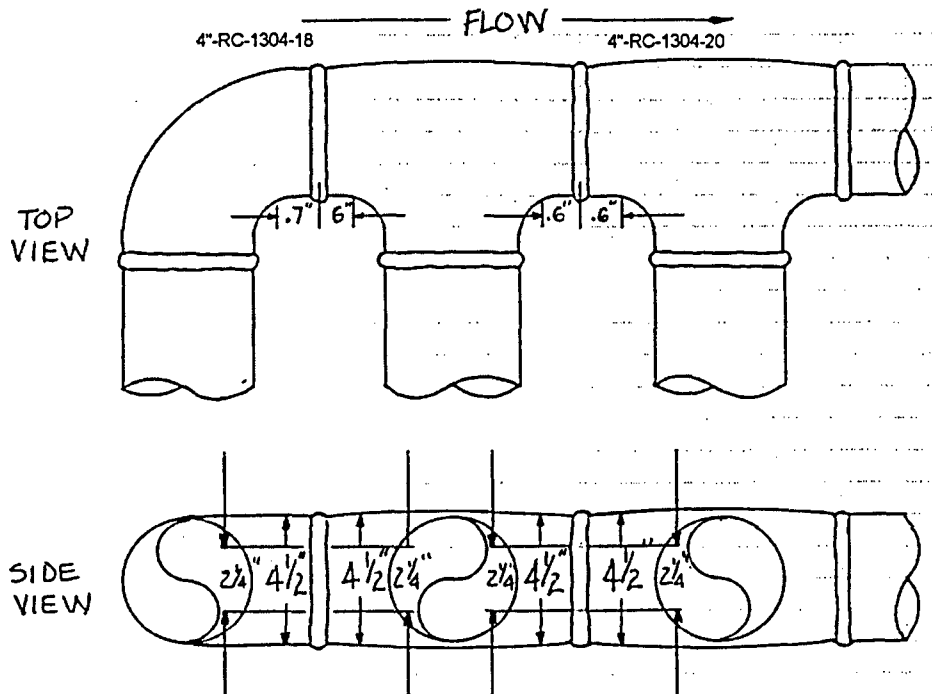


Figure 9

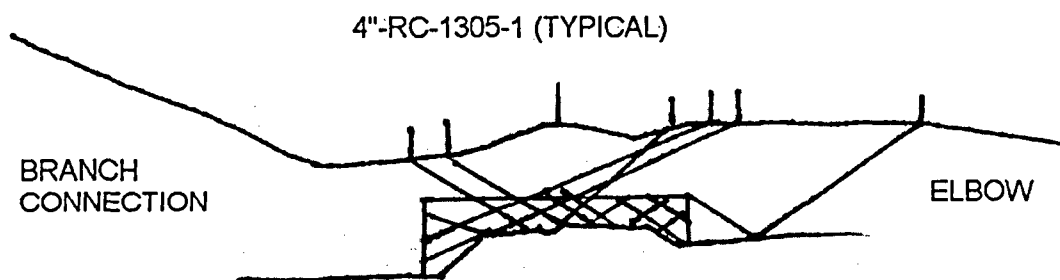


Figure 10

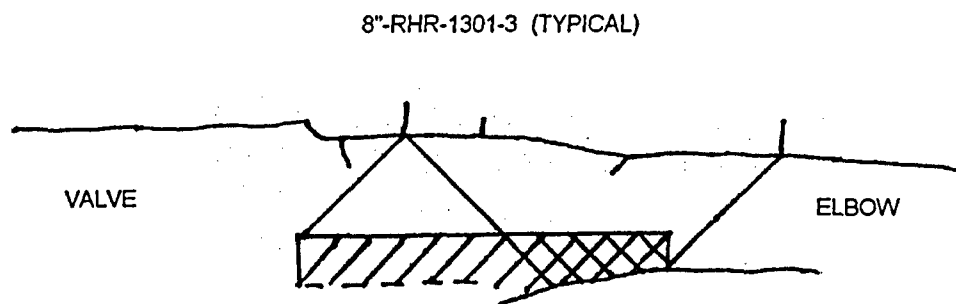


Figure 11

TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1

8"-RHR-1304-8 (TYPICAL)

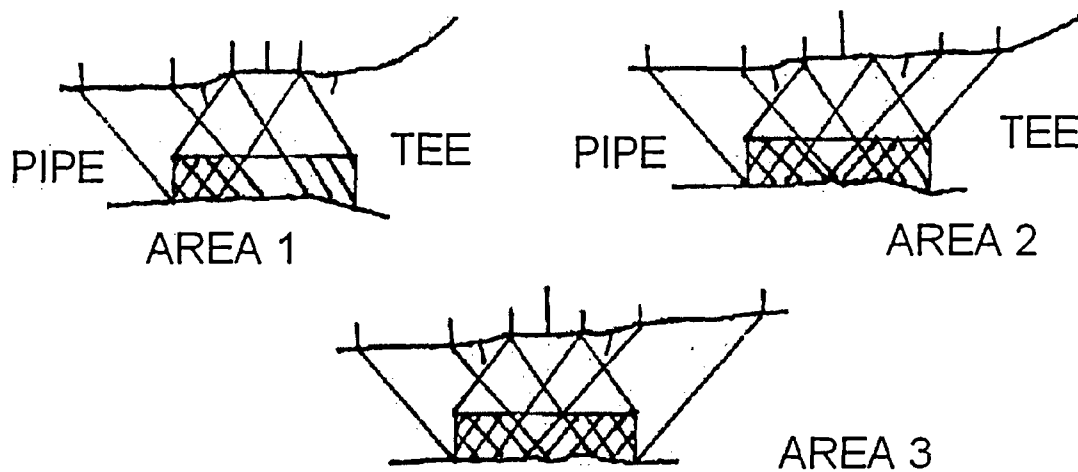
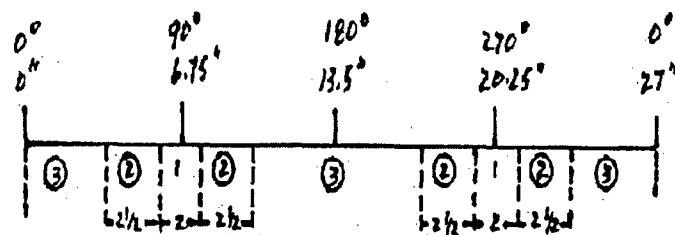


Figure 12



**TURKEY POINT UNIT 3  
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8"-RHR-1305-2A (TYPICAL)

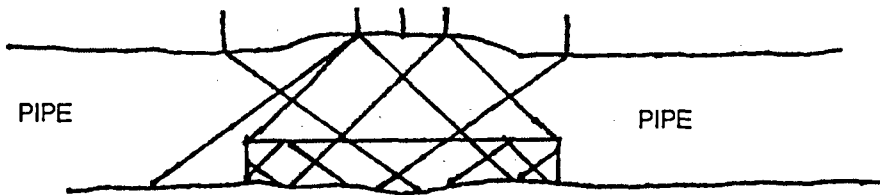


Figure 13

8"-RHR-1305-3 (TYPICAL)

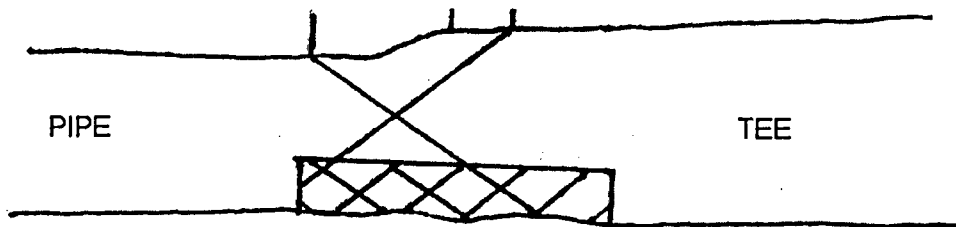


Figure 14

10"-SI-1302-1 (TYPICAL)

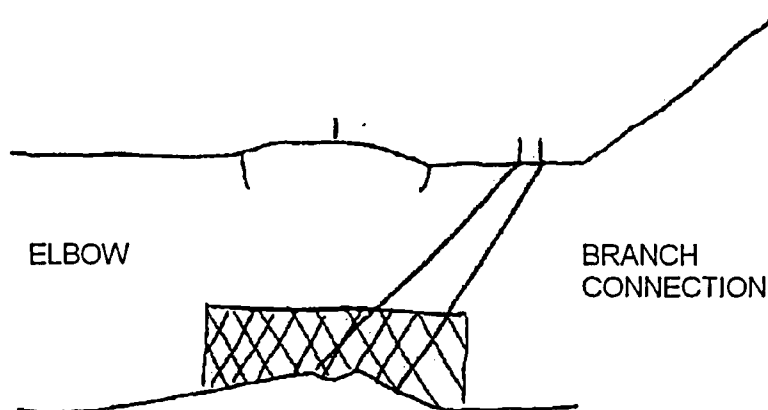


Figure 15

**TURKEY POINT UNIT 3  
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10"-SI-1302-4 (TYPICAL)

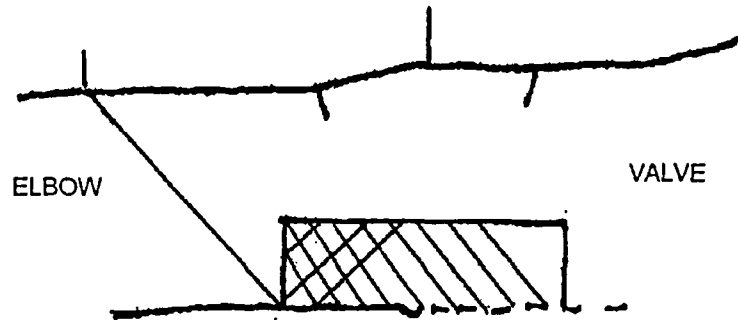


Figure 16

10"-SI-1303-11 (TYPICAL)

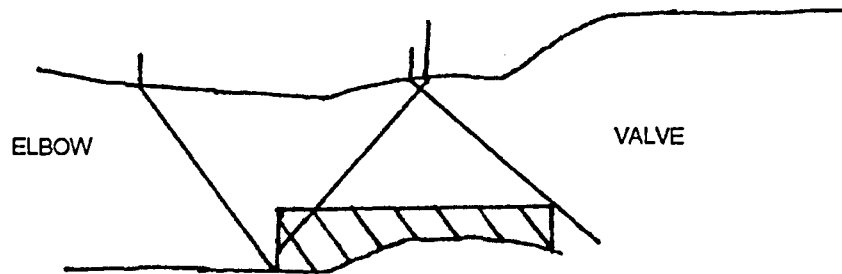


Figure 17

10"-SI-1303-15 (TYPICAL)

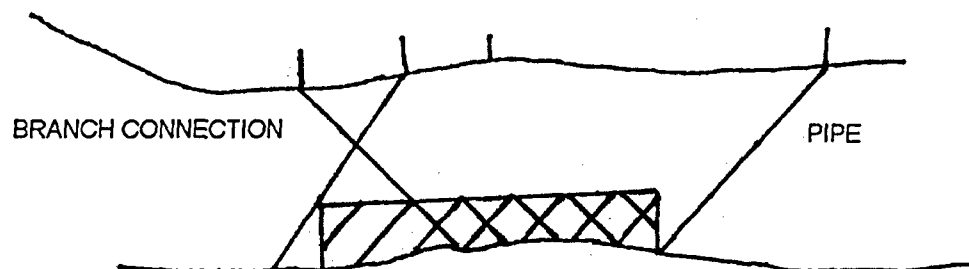


Figure 18



**TURKEY POINT UNIT 3**  
**THIRD 10-YEAR INSERVICE INSPECTION INTERVAL**  
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Figure 19

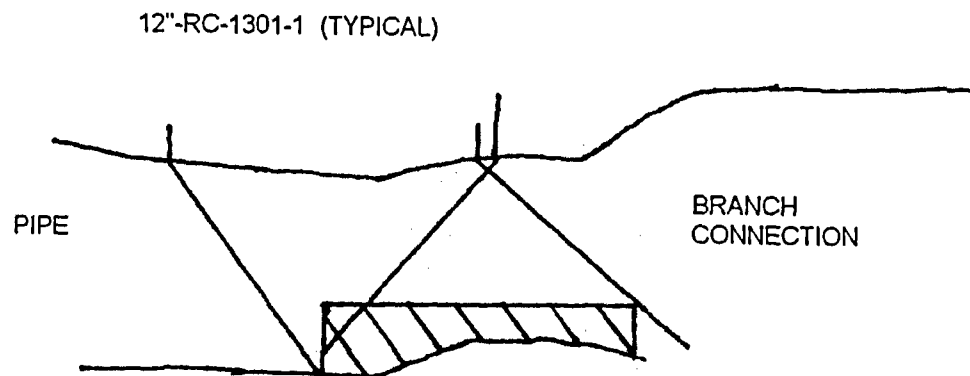


Figure 20

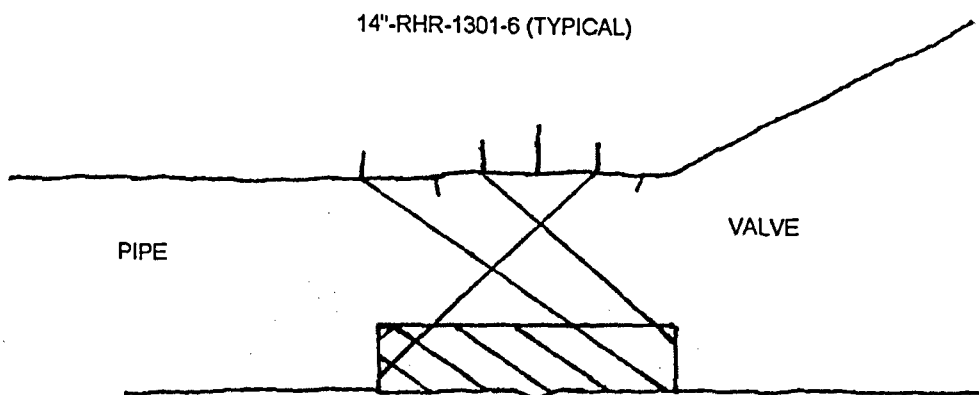
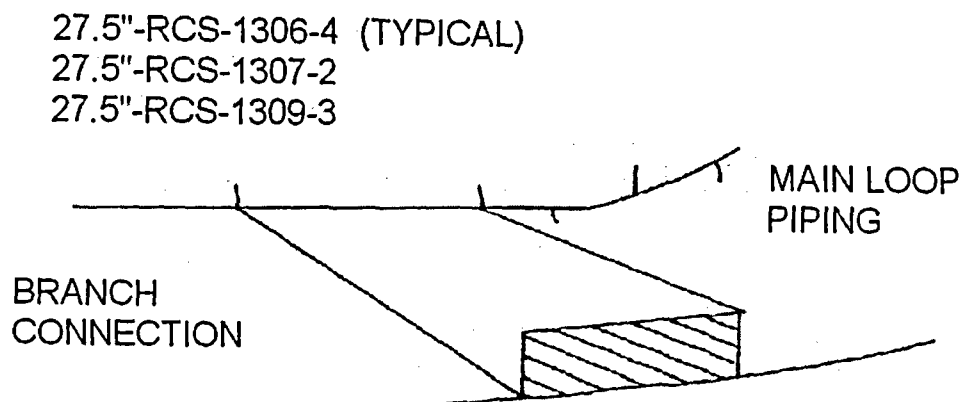


Figure 21



TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
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Figure 22

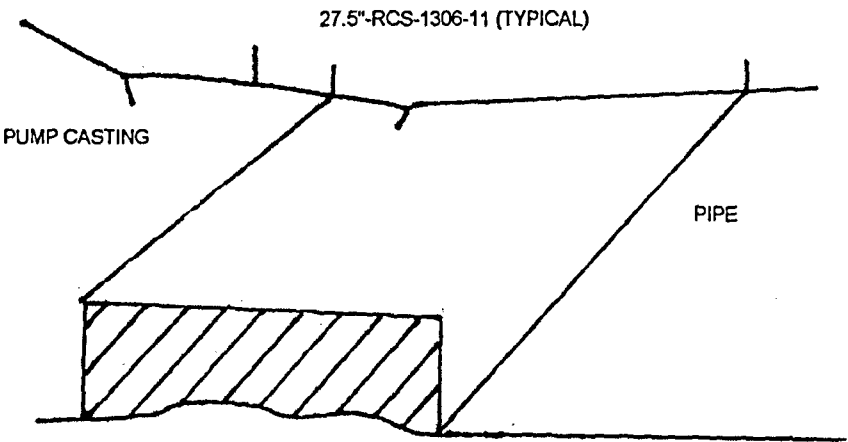
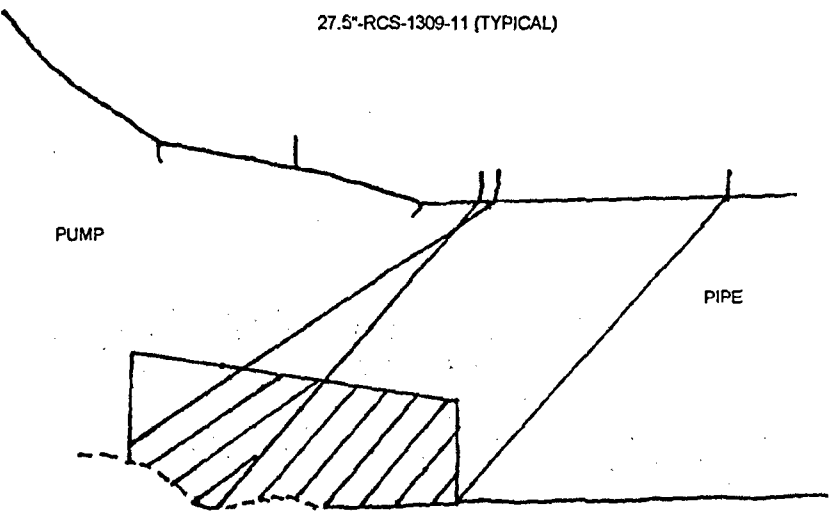


Figure 23



**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
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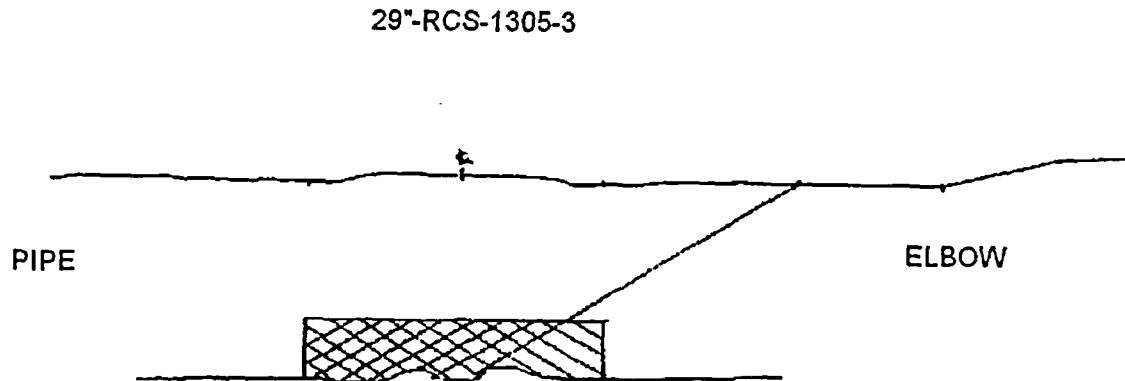


Figure 23A

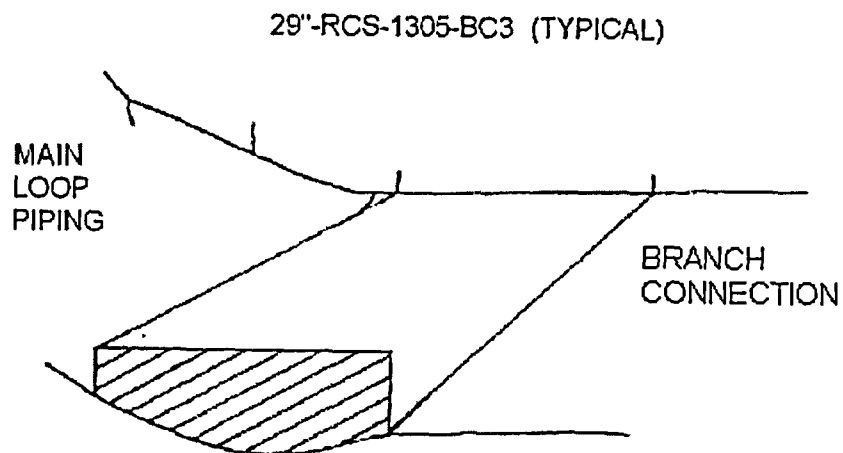


Figure 24

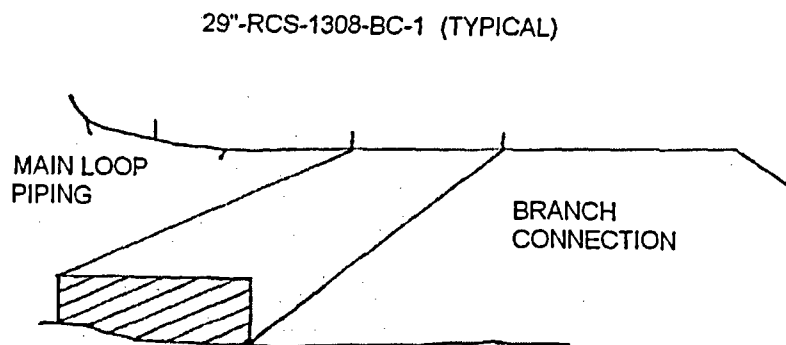


Figure 25

**TURKEY POINT UNIT 3**  
**THIRD 10-YEAR INSERVICE INSPECTION INTERVAL**  
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Figure 26

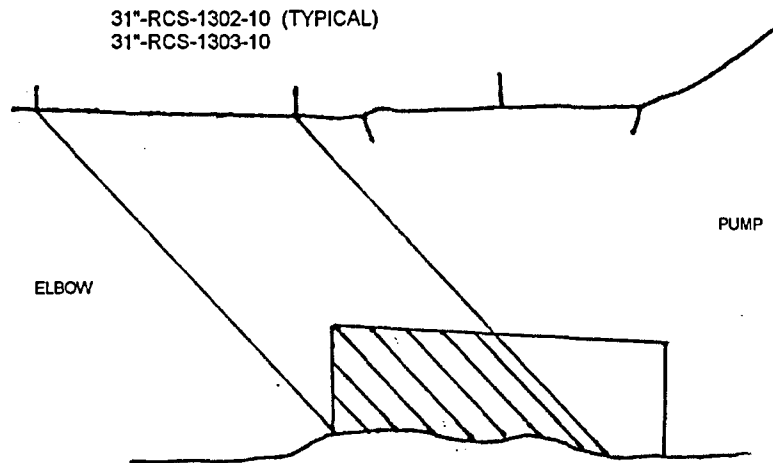
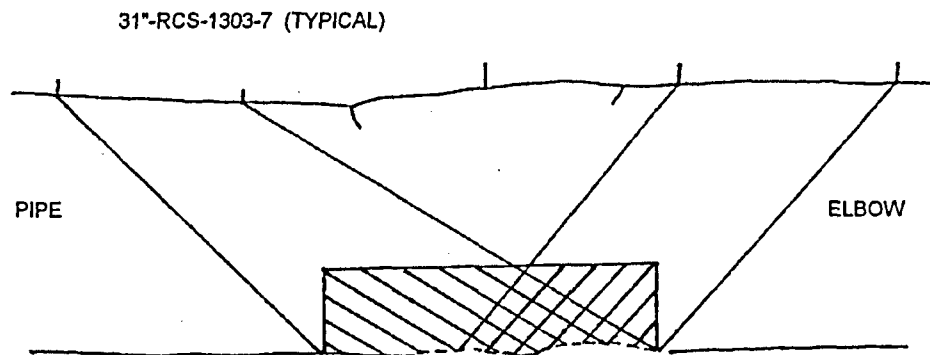


Figure 27



**3-RHE-A1**

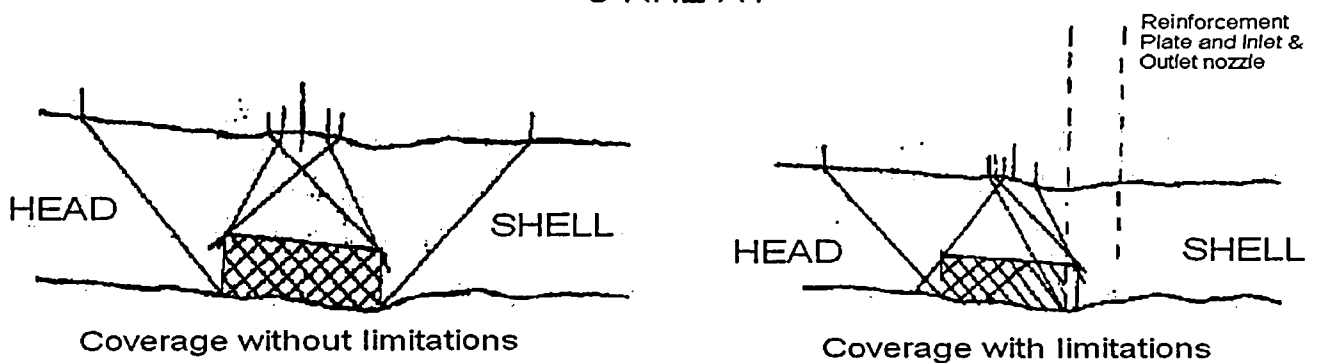


Figure 28

TURKEY POINT UNIT 3  
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3-RHE-A2

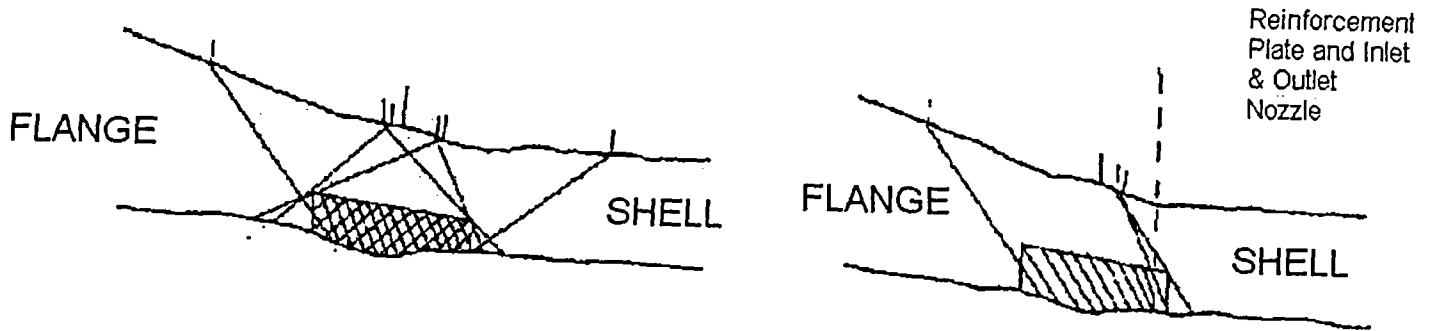
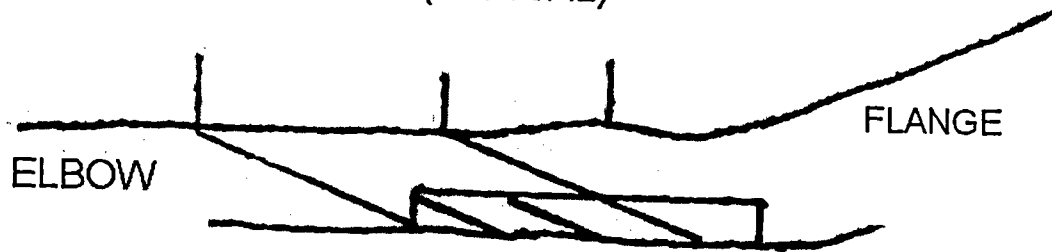


Figure 29

3"-SI-2301-1 (TYPICAL)

Figure 30



3"-SI-2301-4 (TYPICAL)

Figure 31



TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
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Figure 32

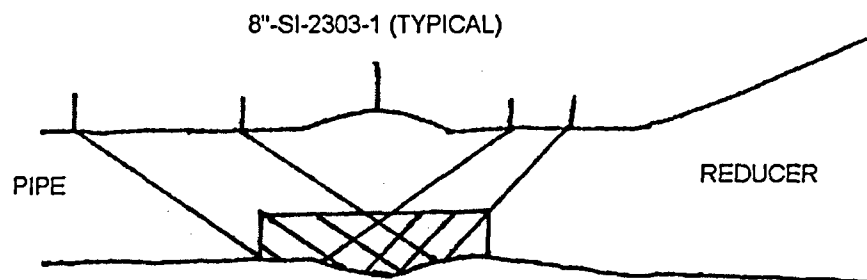


Figure 33

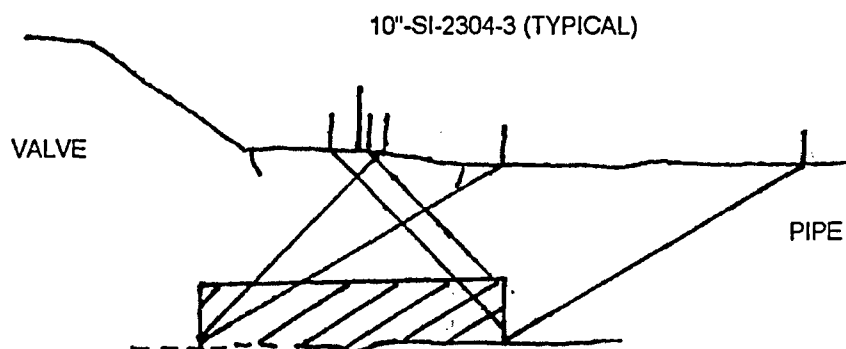
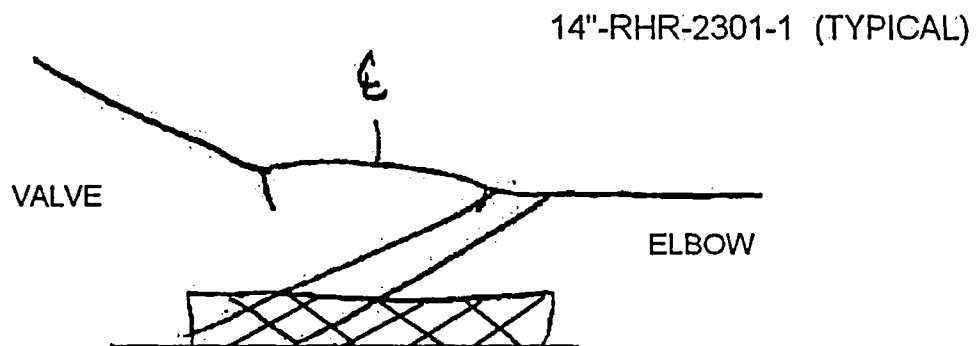


Figure 34



**TURKEY POINT UNIT 3  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 14A (Revised) Rev 1**

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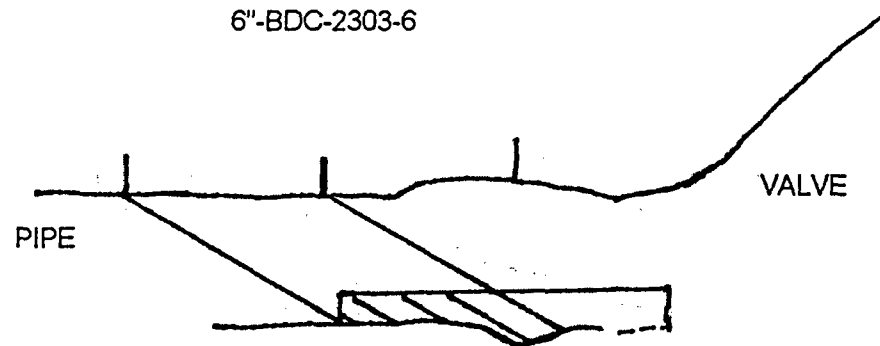


Figure 35

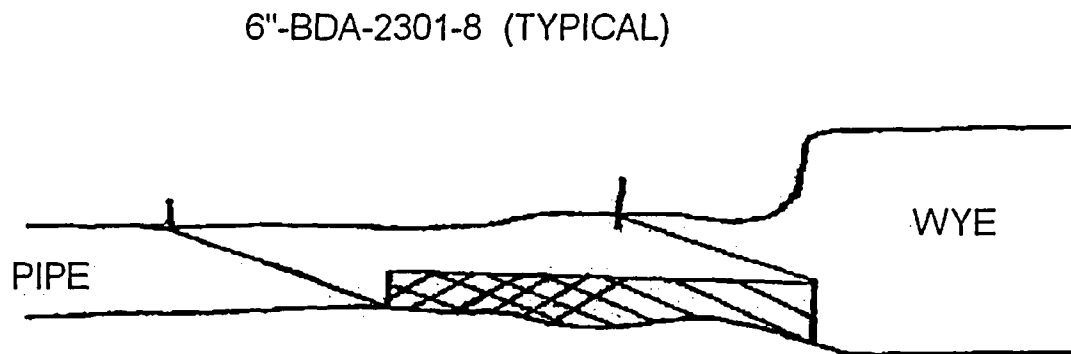


Figure 36

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

**Relief Request  
In Accordance with 10 CFR50.55a(g)(5)(iii)**

--Inservice Inspection Impracticality--

**1. ASME Code Component(s) Affected**

Class 1 inner radius in vessels  
Class 1 and 2 pressure retaining welds in vessel and piping

**2. Applicable Code Edition and Addenda**

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Rules for Inservice Inspection of Nuclear Power Plant Components, Section XI, 1989 Edition, No Addenda.

**3. Applicable Code Requirement**

Exam Cat.	Item No.	Examination Requirements
B-D	B3.120	Essentially 100% volumetric examination of the nozzle inner radius.
B-F	B5.70	Essentially 100% volumetric and surface examination of Circumferential welds for $\geq 4$ " nominal pipe size.
B-J	B9.11	Essentially 100% volumetric and surface examination of Circumferential welds for $\geq 4$ " nominal pipe size.
B-J	B9.31	Essentially 100% volumetric and surface examination of branch pipe connections NPS 4 or larger.
C-A	C1.10 C1.20	Essentially 100% volumetric examination of the weld length.
C-B	C2.21	Essentially 100% volumetric and surface examination of the nozzle to vessel welds.
C-F-1	C5.11	Essentially 100% volumetric and surface examination of Circumferential welds for $\geq 4$ " nominal pipe size.
C-F-1	C5.21	Essentially 100% volumetric and surface examination of Circumferential welds for $> 1/5$ " nominal pipe size.

As defined by ASME Code Case N-460, essentially 100% means more than 90% of the examination volume of each weld where reduction in coverage is due to interference by another component or part geometry.



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**4. Impracticality of Compliance**

Due to the configuration of the welds included within this relief request, it is impractical to meet the examination coverage requirements of the ASME Code, Section XI, 1989 Edition, No Addenda, as clarified by Code Case N-460. Relief is requested in accordance with 10 CFR 50.55a(g)(5)(iii). These areas were found during the 3rd 10-year inservice inspection interval.

When a component has conditions, which limit the examination volume, Florida Power and Light is required to submit the information to the enforcement and regulatory authorities having jurisdiction at the plant site. This Relief Request has been written to address areas where those types of conditions exist and the required amount of coverage was reduced below the minimum acceptable.

When examined, the welds listed within this request did not receive the required code volume coverage due to their configuration and/or the presence of permanent attachments. These scanning limitations prohibit essentially 100% ultrasonic examination coverage of the required examination volume.

The Table 1 summarizes the percent of coverage achieved and references specific figures that show the extent of coverage. Arrows and lines on the figures illustrate the UT transducer beam direction and extent of the area examined.

Relief is requested from the ASME Boiler and Pressure Vessel Code required volume as identified in Figure IWB-2500-7 through 10 and IWC-2500 1, 4 and 7, as applicable.

**5. Burden Caused By Compliance**

Examinations are performed to the maximum extent possible. The ultrasonic (UT) techniques for each weld were reviewed to determine if additional coverage could be achieved. If practical, physical obstructions were removed. For the welds listed within Table 1, it was not possible to remove the obstruction without significant work, increased radiation exposure, and/or damage to the plant. Additional weld preparation by welding or metal removal is a modification of the examination area requiring significant engineering and construction personnel support. Increased radiation exposure and cost would be incurred in order to perform these modifications.

Radiography is impractical due to the amount of work being performed in the areas on a 24-hour basis. This would result in numerous work-related stoppages and increased exposure due to the shutdown of and startup of other work in the areas. The water must be drained from systems where radiography is performed, increases the radiation dose rates over a much broader area than the weld being examined. There would be significant burden associated with the performance of weld or area modifications or radiography in order to increase the examination coverage.

**6. Proposed Alternative and Basis for Use**

**Proposed Alternative**

- 1) Surface examination per category B-F, B-J, C-B, and C-F-1
- 2) Conduct ultrasonic examinations to the maximum extent possible.
- 3) Periodic system pressure tests in accordance with ASME Section XI Category B-P, Table IWB-2500-1 and Category C-H, Table IWC-2500-1.

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**Basis**

FPL performed inservice examinations of selected welds in accordance with the requirements of 10CFR50.55a, plant technical specifications, and the 1989 Edition, no addenda, of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI. When a component has conditions, which limit the examination volume, Florida Power and Light is required to submit the information to the enforcement and regulatory authorities having jurisdiction at the plant site. This Relief Request has been written to address areas where those types of conditions exist and the required amount of coverage was reduced below the minimum acceptable.

It is not possible to obtain ultrasonic interrogation of greater than 90% of the required examination volume due to interference caused by configuration and/or permanent attachments. Configuration, permanent attachments and/or structural interferences prohibit 100% ultrasonic examination of Code required volume. Additional ultrasonic techniques are employed where practical to achieve the code-required volume. The Table 1 summarizes the percent of coverage achieved and references specific figures that show the extent of coverage. Arrows and lines on the figures illustrate the UT transducer beam direction and extent of the area examined.

For examinations performed prior to the expedited implementation of Appendix VIII, Supplements 2 and 3 (May 22, 2000), the ultrasonic testing (UT) techniques for each weld were reviewed to determine if additional coverage could have been achieved. FPL's procedures require the examiner to consider whether additional coverage is necessary and practical. Those alternate techniques were investigated at the time of discovery. The alternate techniques considered were extending the calibration distance and/or using additional beam angles or modes. This has often provided the additional coverage needed to avoid relief. Using additional UT techniques on the weld examination areas in this relief request would have provided little or no additional coverage. The coverage obtained was the maximum practical.

For examinations performed after the 10 CFR 50.55a required expedited implementation of Appendix VII, supplements 2 and 3 (May 22, 2000), the ultrasonic testing (UT) was performed utilizing personnel qualified and procedures demonstrated in accordance with the Performance Demonstration Initiative (PDI) program. In the cases where austenitic materials were examined (Code Category B-J and C-F-1, the credited volumetric examination of the weld required volume (WRV) is limited when access can only be obtained from one side. It should be noted that the volumetric examination was performed through 100% of the Code WRV, however, the PDI Appendix VIII procedure used is not qualified for the detection of flaws on the far side of the single sided access examinations of austenitic piping welds. The techniques employed for the single sided examinations provided for a best effort examination. The coverage obtained was the maximum practical.

The required surface examinations were performed and were not limited. In all cases, 100 percent of the code required surface area was examined. These surface and volumetric examinations did not reveal any recordable or reportable flaws in the examination zone or adjacent to any volumetric limitations in accordance with the ASME Code Section XI, 1989 Edition, No Addenda.

For Category B-F, the Class 1 dissimilar metal piping welds have carbon steel nozzles buttered with stainless steel and field welded to forged stainless steel or cast stainless steel components with stainless steel weld material. All dissimilar metal weld examinations were performed prior to the expedited implementation of Appendix VIII, Supplements 10 (November 22, 2002). The ultrasonic testing (UT) techniques for each weld were reviewed to determine if additional coverage could have been achieved. FPL's procedures require the examiner to consider whether additional coverage is necessary and practical. Those alternate techniques were investigated at the time of discovery. The alternate techniques considered were extending the calibration distance and/or using additional beam angles or modes. This has often provided the additional coverage needed to avoid relief. Using

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additional UT techniques on the weld examination areas in this relief request would have provided little or no additional coverage. The coverage obtained was the maximum practical.

FPL performed the examinations to the extent possible. Operations personnel and system engineers perform walk downs of every system on a periodic basis looking for leakage or other abnormal conditions. Surface and volumetric examinations performed, along with the required system pressure tests; provide reasonable assurance of an acceptable level of quality and safety.

10 CFR 50.55a(g)(4) recognizes that throughout the service life of a nuclear power facility, components, which are classified as ASME Code Class 1, Class 2, and Class 3, must meet the requirements set forth in the ASME Code to the extent practical within the limitations of design, geometry and materials of construction of the components.

The extent of examination volume achieved ultrasonically and the alternate scans performed (see Table 1) coupled with the system pressure tests provide assurance of an acceptable level of quality and safety.

**7. Duration of Proposed Alternative**

Third Inservice Inspection Interval  
April 15, 1994 to April 14, 2005 (This includes a 1 year extension per ASME Section XI, 1989 Edition, IWA 2430, No Addenda)

**8. References**

10 CFR 50.55a

ASME Section XI, Rules For In-service Inspection of Nuclear Power Plant Components, 1989 Edition, No Addenda.

ASME Section XI, Division 1, Code Case N-460, Alternative Examination coverage for Class 1 and Class 2 Welds, Section XI, Division 1.

ASME Section XI, Rules For In-service Inspection of Nuclear Power Plant Components, 1995 Edition, 1996 Addenda

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THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impacticably of Compliance
Inlet Nozzle Inner Radius	4-SGA-I-IRS	1994	Exam Category B-D Item No. B3.140 Fig. IWB -2500-7(D) 75% Coverage	1	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Outlet Nozzle Inner Radius	4-SGA-O-IRS	1994	Exam Category B-D Item No. B3.140 Fig. IWB -2500-7(D) 75% Coverage	2	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Inlet Nozzle Inner Radius	4-SGB-I-IRS	1997	Exam Category B-D Item No. B3.140 Fig. IWB -2500-7(D) 75% Coverage	1	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Outlet Nozzle Inner Radius	4-SGB-O-IRS	1997	Exam Category B-D Item No. B3.140 Fig. IWB -2500-7(D) 75% Coverage	2	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Inlet Nozzle Inner Radius	4-SGC-I-IRS	2002	Exam Category B-D Item No. B3.140 Fig. IWB -2500-7(D) 75% Coverage Achieved	1	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Outlet Nozzle Inner Radius	4-SGC-O-IRS	2002	Exam Category B-D Item No. B3.140 Fig. IWB -2500-7(D) 75% Coverage Achieved	2	Inservice examination limited by welded pads, supports, insulation pins, and Inner Radius configuration.
Spray Nozzle Inner Radius	SP-04-1-IR	2000	Exam Category B-D Item No. B3.120 Fig. IWB-2500-7(D) 70% Achieved	3	Inservice examination limited by configuration and raised letters welded in the examination zone

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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impacticably of Compliance
Surge Nozzle Inner Radius	4-SRGN-01-1R	1996	Exam Category B-D Item No. B3.120 Fig. IWB-2500-7(D) 55% Achieved	4	Inservice examination limited by Pressurizer Heater Penetrations.
Safe-End To PZR Nozzle	12"-RC-1401-9 (12"-140)	1996	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 100% From Safe-End Side 74% From Nozzle Side	5	Inservice examination limited by configuration, examination is complete from Safe-end side and limited from Nozzle side due to taper.
Elbow To SG Nozzle	29"-RCS-1404-4	1994	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 74% From Elbow Side 0% From Nozzle Side	6	Inservice examination limited by configuration, examination is limited from the Elbow side due to weld crown and Nozzle side due to taper.
Elbow To SG Nozzle	29"-RCS-1405-4	1997	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 53% From Elbow Side 10% From Nozzle Side	7	Inservice examination limited by configuration, examination is limited from the Elbow side due to weld crown and Nozzle side due to taper.
SG Nozzle To Elbow	31"-RCS-1401-5	1994	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 0% From Nozzle Side 62% From Elbow Side	8	Inservice examination limited by configuration, examination is limited from the Elbow side due to weld crown and Nozzle side due to taper.
SG Nozzle To Elbow	31"-RCS-1402-5	1997	Exam Category B-F Item No. B5.70 Fig. IWB-2500-8 8% From Nozzle Side 42% From Elbow Side	9	Inservice examination limited by configuration, examination is limited from the Elbow side due to weld crown and Nozzle side due to taper.

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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impacticability of Compliance
Valve To Elbow	8"-RHR-1401-6 (8"-120)	1996	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 20% From Valve Side 100% From Elbow Side	10	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Valve side due to taper.
Pipe To Tee	8"-RHR-1402-4 (8"-120)	1996	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Pipe Side 30% From Tee Side	11	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Tee side due to taper.
Tee To Tee	8"-RHR-1402-7 (8"-120)	1996	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 60% From Upstream Tee Side 20% From Downstream Tee Side	12	Inservice examination limited by configuration, examination is limited from both sides of the tee due to radius.
Valve To Pipe	10"-SI-1401-14 (10"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 26% From Valve Side 100% From Pipe Side	13	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Valve side due to taper.
Elbow To Branch Connection	10"-SI-1401-18 (10"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Elbow Side 18% From Branch Connection Side	14	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Branch Connection side due to taper.

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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Valve To Elbow	10"-SI-1402-1 (10"-140)	1999	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Elbow Side 26% From Valve Side	15	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Valve side due to taper.
Pipe To Valve	10"-SI-1402-13 (10"-140)	1997	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Pipe Side 23% From Valve Side	17	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Valve side due to taper.
Elbow To Branch Connection	10"-SI-1402-17 (10"-140)	1997	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Elbow Side 23% From Branch Conn. Side	18	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Branch Connection side due to taper.
Elbow To Tee	10"-SI-1402-4 (10"-140)	1999	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Elbow Side 11% From Tee Side	16	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Tee side due to radius.
Branch Connection To Pipe	12"-RC-1401-1 (12"-140)	1997	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 36% From Branch Conn. Side 86% From Pipe Side	19	Inservice examination limited by configuration, examination is limited from Branch Connection and Elbow side due to taper.
Branch Connection To Elbow	14"-RHR-1401-1 (14"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 70% From Branch Conn. Side 35% From Elbow Side	20	Inservice examination limited by configuration, examination is limited from Branch Connection and Elbow side due to taper.

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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impracticably of Compliance
Pipe To Valve	14"-RHR-1401-5 (14"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 100% From Pipe Side 0% From Valve Side	21	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Valve side due to taper.
Valve To Pipe	14"-RHR-1401-6 (14"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 0% From Valve Side 100% From Pipe Side	22	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Valve side due to taper.
Elbow To Pipe	14"-RHR-1401-9 (14"-140)	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 54% From Elbow Side 53% From Pipe Side	23	Inservice examination limited by configuration, examination is limited from Pipe side and Elbow side due to weld crown.
Pump To Pipe	27.5"-RCS-1406-11	1997	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 0% From Pump Side 100% From Pipe Side	25	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Pump side due to taper.
10" Branch Connection	27.5"-RCS-1406-18	1994	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	24	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
Pump To Pipe	27.5"-RCS-1407-11	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 18% From Pump Side 41% From Pipe Side	26	Inservice examination limited by configuration, examination is limited from Pump due to taper and Pipe side due to instrumentation line.



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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
10" Branch Connection	27.5"-RCS-1407-20	1994	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	24	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
4" Branch Connection	27.5"-RCS-1409-16	1994	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	27	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
10" Branch Connection	27.5"-RCS-1409-17	1994	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping	24	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
14" Branch Connection	29"-RCS-1404-18	1994	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 100% From Branch Conn. Side 0% From Main Loop Piping Side	28	Inservice examination limited by configuration, examination is complete from Branch Connection side and limited from Main Loop Piping side due to taper.
12" Branch Connection	29"-RCS-1405-21	1994	Exam Category B-J Item No. B9.31 Fig. IWB-2500-10 75% From Branch Conn. Side 0% From Main Loop Piping Side	29	Inservice examination limited by configuration, examination is limited from Branch and Main Loop Piping side due to taper.
Elbow To Pump	31"-RCS-1401-10	1994	Exam Category B-J Item No. 9.11 Fig. IWB-2500-8 57% From Elbow Side 0% From Pump Side	31	Inservice examination limited by configuration, examination is limited from the Elbow due to weld crown and taper and Pump side due to taper.

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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impacticably of Compliance
Elbow To Pipe	31"-RCS-1401-8	1994	Exam Category B-J Item No. B9.11 Fig. IWB-2500-8 64% From Elbow Side 88% From Pipe Side	30	Inservice examination limited by configuration, examination is limited from Elbow due to taper and Pipe side due to weld crown.
Head To Shell	4-RHE-A1	1996	Exam Category C-A Item No. C1.20 Fig. IWC-2500-1 79% From Head Side 52% From Shell Side	32	Inservice examination limited by configuration, examination is limited from the Head and Shell side due to support integral attachment, welded attachments and nozzle reinforcement plate.
Shell To Flange	4-RHE-A2	1996	Exam Category C-A Item No. C1.10 Fig. IWC-2500-1 57% From Shell Side 0% From Flange Side	33	Inservice examination limited by configuration, examination is limited from the Shell and Flange side due to support integral attachment, welded attachments and nozzle reinforcement plate.
Nozzle To Shell	4-RHE-A11	1996	Exam Category C-A Item No. C2.21 Fig. IWC-2500-4(a) 99% From Nozzle Side 41% From Shell Side	34	Inservice examination limited by configuration, examination is limited from Nozzle side due to taper and Shell side due to weld crown.
Flange To Elbow	3"-SI-2401-1 (3"-80)	2002	Exam Category C-F-1 Item No. C5.21 Fig. IWC-2500-7(a) 0% From Flange Side 100% From Elbow Side Examined 2002	35	Inservice examination limited by configuration, examination performed with Appendix VIII demonstrated procedure, examination is complete from Elbow side and limited from Flange side due to taper.
Pipe To Valve	8"-SI-2403-17 (8"-120)	2002	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 100% From Pipe Side 0% From Valve Side	36	Inservice examination limited by configuration, examination performed with Appendix VIII demonstrated procedure, examination complete from Pipe side and limited from Valve side due to taper.

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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impacticably of Compliance
Pipe To Valve	8"-SI-2404-2 (8"-120)	1999	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 100% From Pipe Side 45% From Valve Side	37	Inservice examination limited by configuration, examination performed with Appendix VIII demonstrated procedure, examination is complete from Pipe side and limited from Valve side due to taper.
Tee To Pipe	8"-SI-2407-8 (8"-120)	1999	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 75% From Tee Side 100% From Pipe Side	38	Inservice examination limited by configuration, examination performed with Appendix VIII demonstrated procedure, examination is complete from Pipe side and limited from Tee side due to radius.
Pipe To Valve	10"-SI-2407-4 (10"-140)	1999	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 100% From Pipe Side 15% From Valve Side	39	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Valve side due to taper.
Valve To Elbow	10"-SI-2407-5 (10"-140)	1999	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 35% From Valve Side 100% From Elbow Side	40	Inservice examination limited by configuration, examination is complete from Elbow side and limited from Valve side due to taper.
Pipe To Flange	12"-RHR-2402-15 (12"-40)	1996	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 27% From Pipe Side 70% From Flange Side	41	Inservice examination limited by configuration, examination is limited from Pipe side due to weld crown and Flange side due to taper.
Tee To Tee	14"-RHR-2403-1 (14"-40)	1996	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 78% From Upstream Tee Side 56% From Downstream Tee Side	42	Inservice examination limited by configuration, examination is limited from the both sides of the Tee due to the radius.

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Table 1					
ASME Code Component	Component ID	Angle Used	Applicable Code Requirement and coverage Obtained	Fig.	Impracticability of Compliance
Tee To Pipe	14"-RHR-2403-2 (14"-40)	1996	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 78% From Tee Side 100% From Pipe Side	43	Inservice examination limited by configuration, examination is complete from Pipe side and limited from Tee side due to the radius.
Elbow To Valve	14"-RHR-2403-4 (14"-40)	1996	Exam Category C-F-1 Item No. C5.11 Fig. IWC-2500-7(a) 36% From Elbow Side 73% From Valve Side	44	Inservice examination limited by configuration, examination is limited from Elbow side due to weld crown and Valve side due to taper.

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

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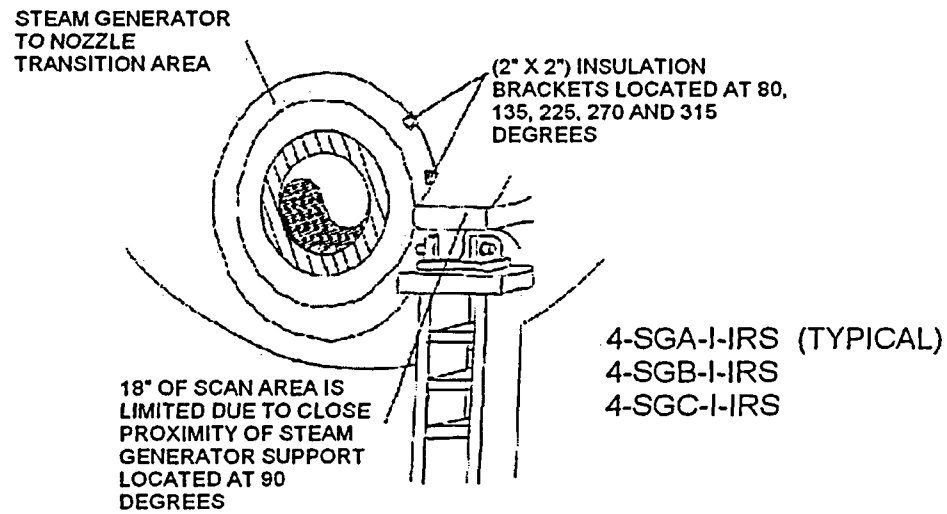


Figure 1

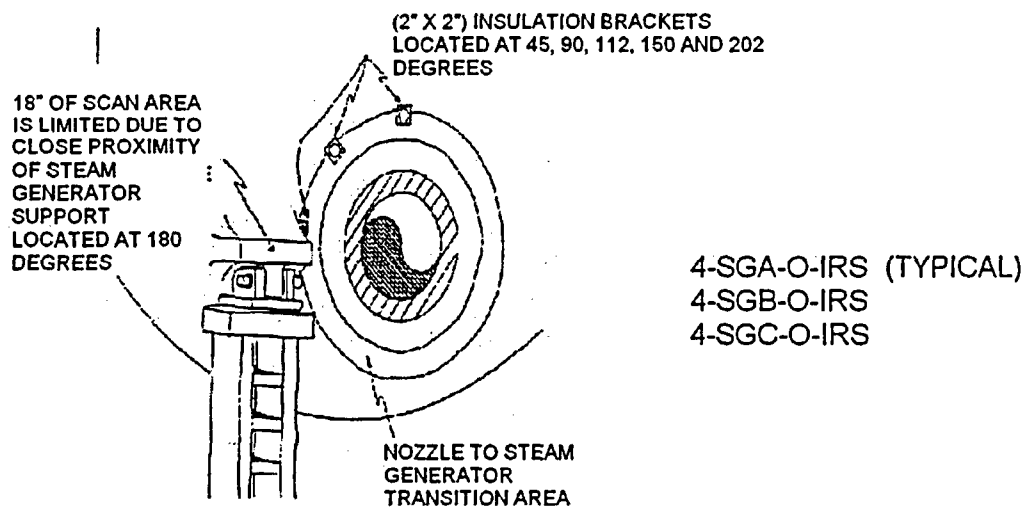
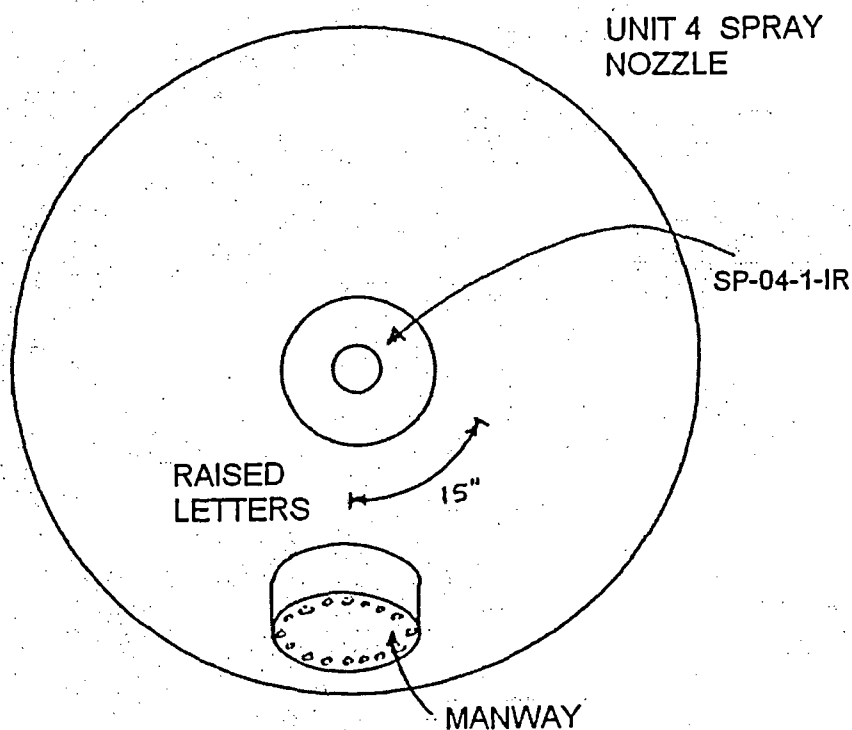


Figure 2

**TURKEY POINT UNIT 4**  
**THIRD 10-YEAR INSERVICE INSPECTION INTERVAL**  
**RELIEF REQUEST NUMBER 15A (Revised) Rev 1**



**SP-04-1-IR**  
 Summary # 055400  
 Spray Nozzle/IR Section

Scan Limitation due to raised letters.

Inner diameter = 3.5"  
 Outer Diameter = 15"  $\pm$  1/2"

15"  
 47.1" not scanned two directions  
 total outside circumference =

31.8% area not scanned two directions =

Figure 3

70% CRV achieved  
 15% CRV achieved one direction  
 15% CRV not achieved at all

TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1

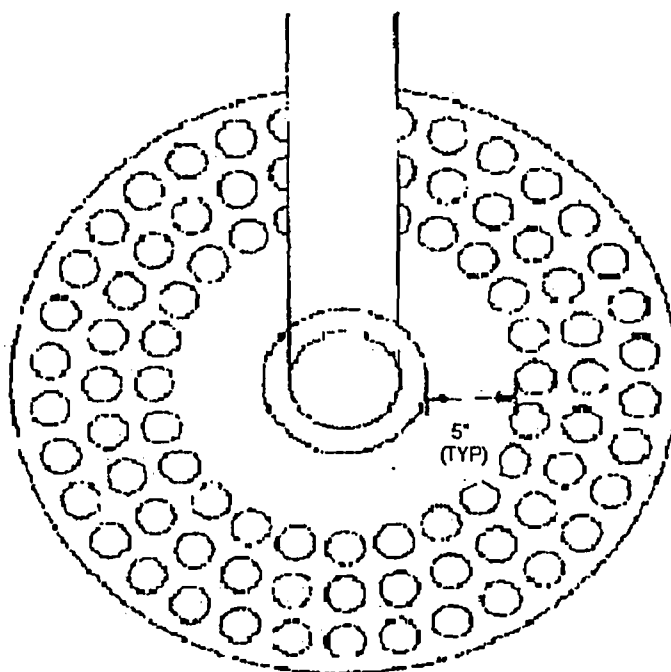


Figure 4

PRESSURIZER SURGE NOZZLE  
4-SRGN-01-IR

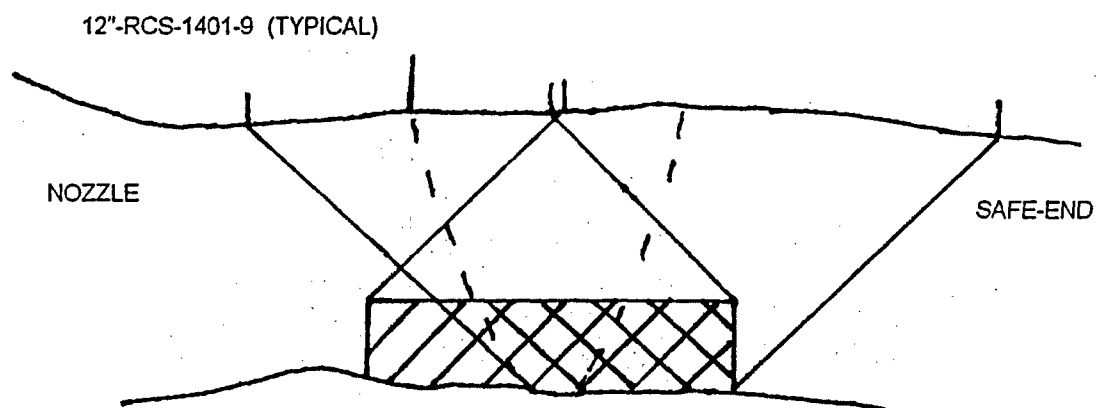


Figure 5

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

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29"-RCS-1404-4 (TYPICAL)

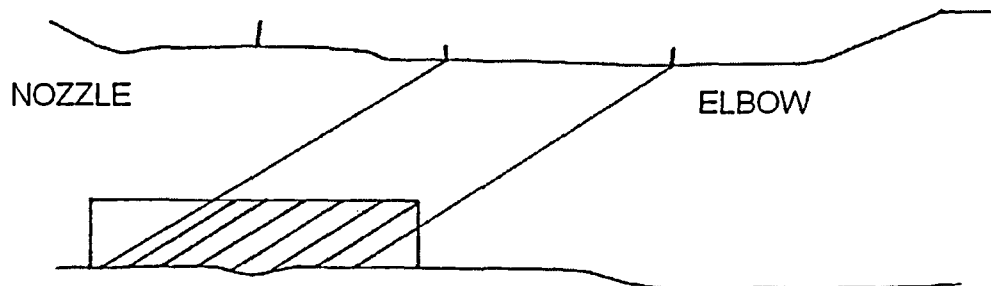


Figure 6

29"-RCS-1405-4 (TYPICAL)

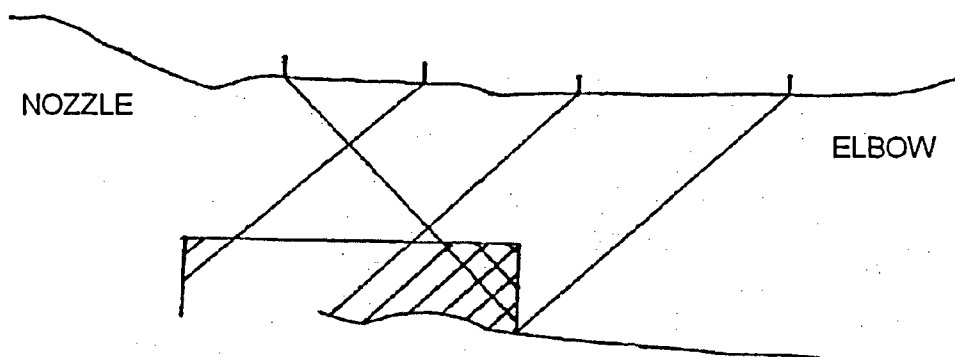


Figure 7



TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1

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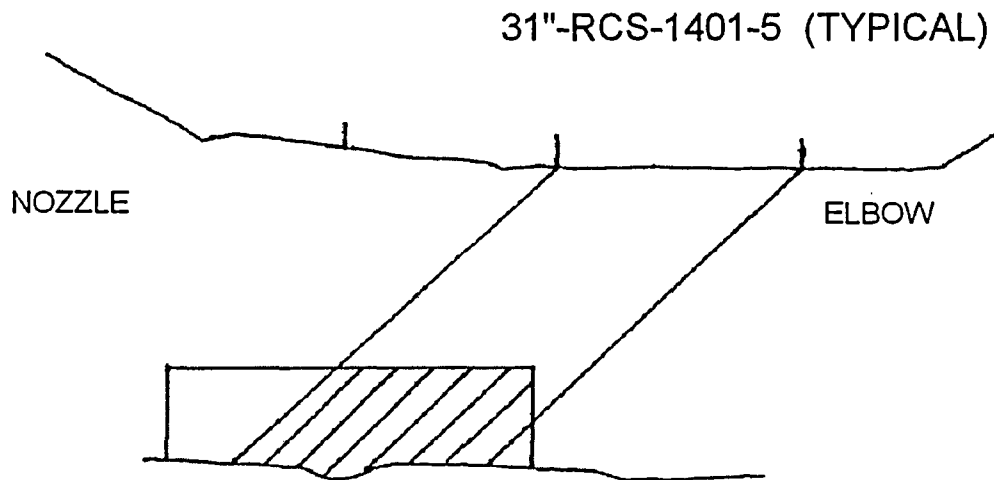


Figure 8

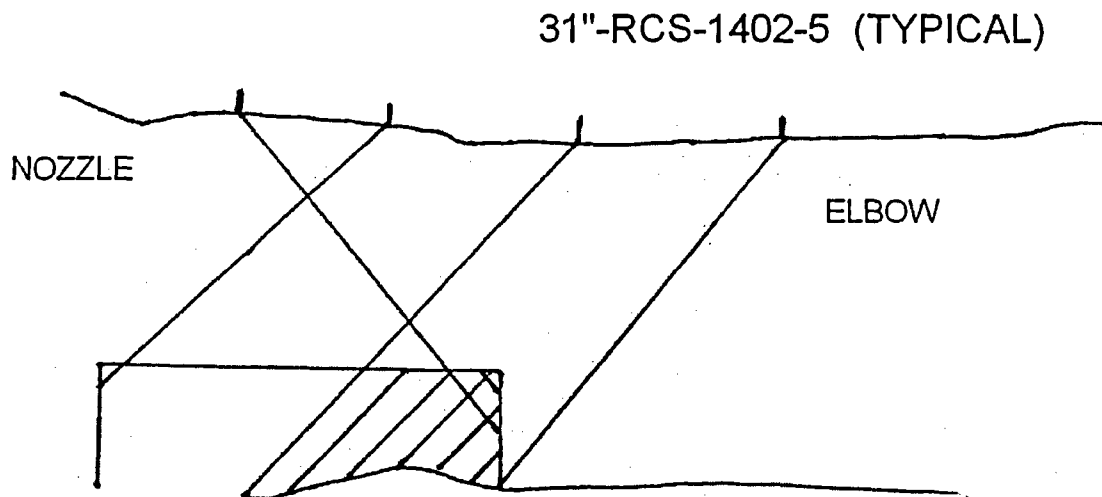


Figure 9

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

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8"-RHR-1401-6 (TYPICAL)

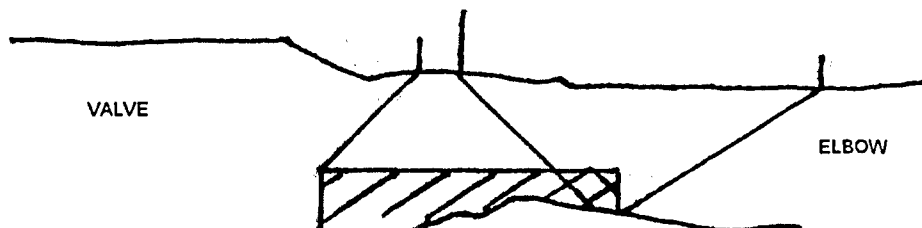


Figure 10

8"-RHR-1402-4 (TYPICAL)

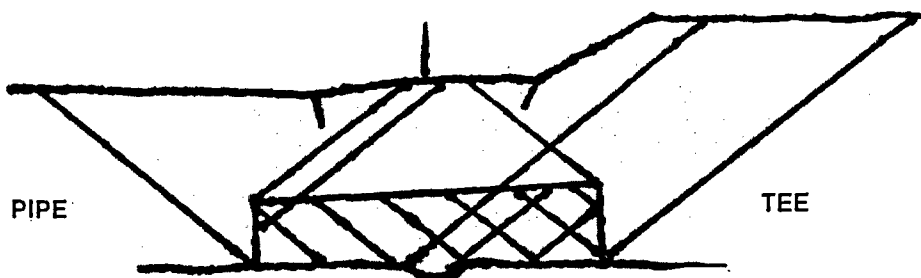


Figure 11

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

8"-RHR-1402-7 (TYPICAL)

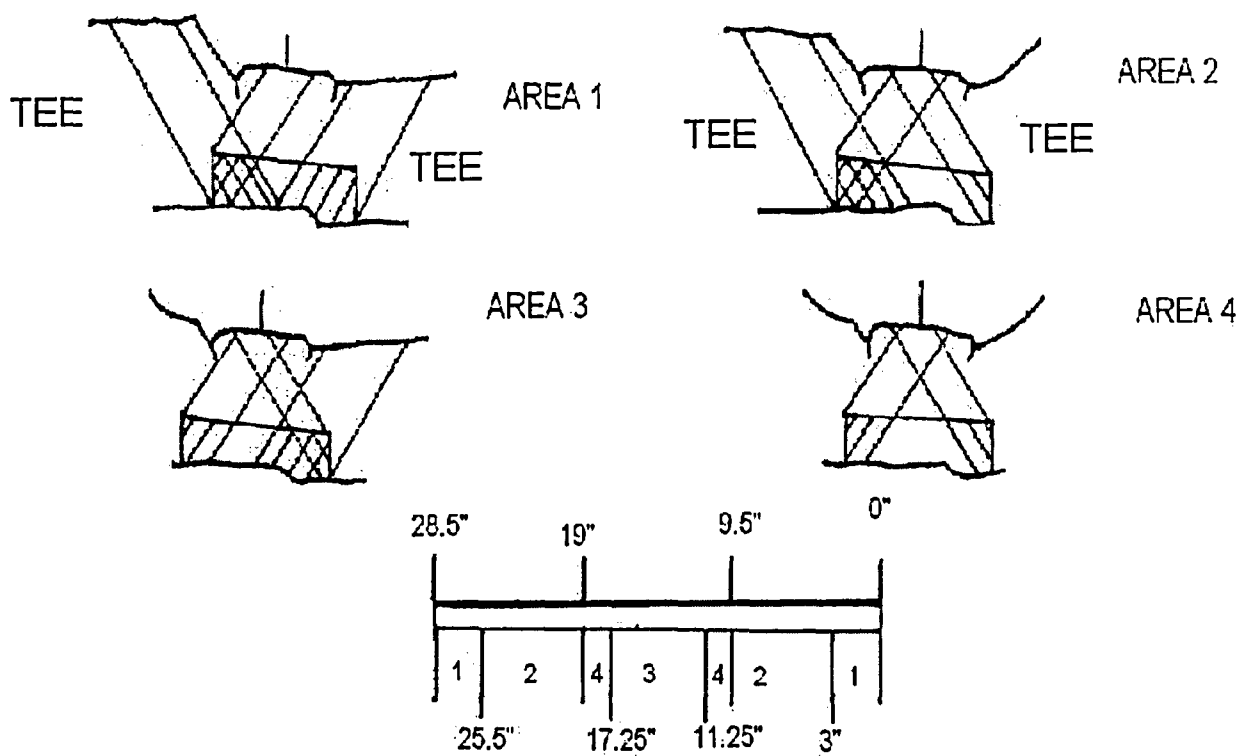


Figure 12

TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1

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10"-SI-1401-14 (TYPICAL)

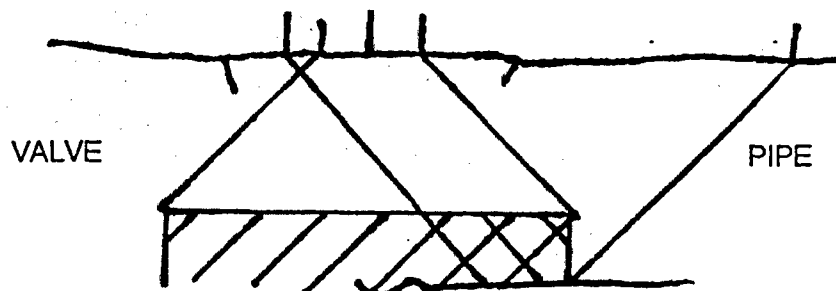


Figure 13

10"-SI-1401-18 (TYPICAL)

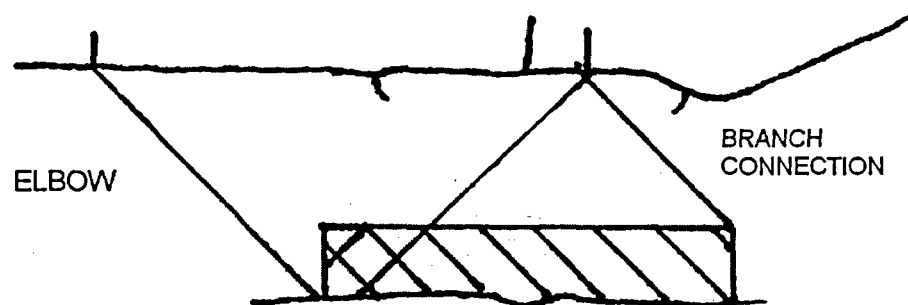


Figure 14

10"-SI-1402-1 (TYPICAL)

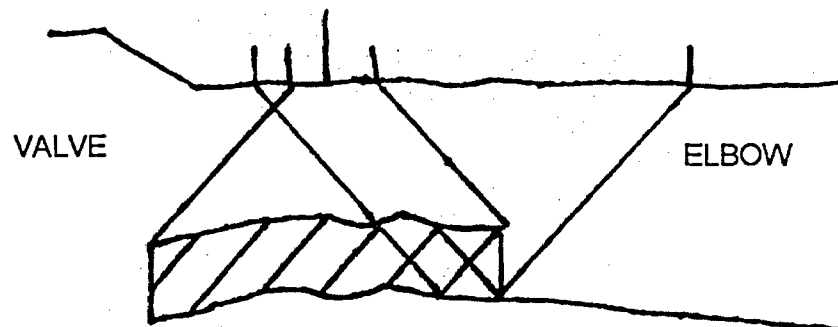


Figure 15

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

10"-SI-1402-4 (TYPICAL)

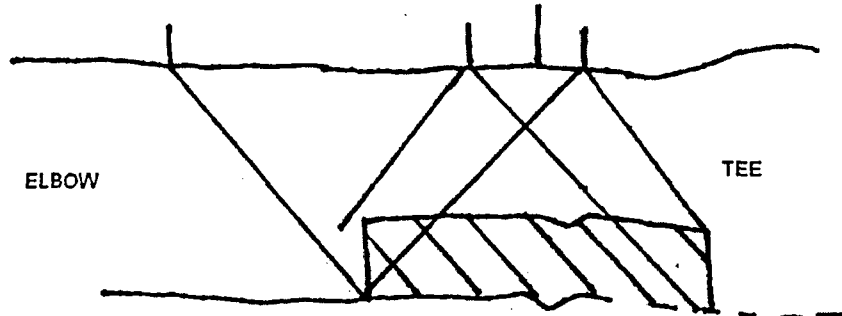


Figure 16

10"-SI-1402-13 (TYPICAL)

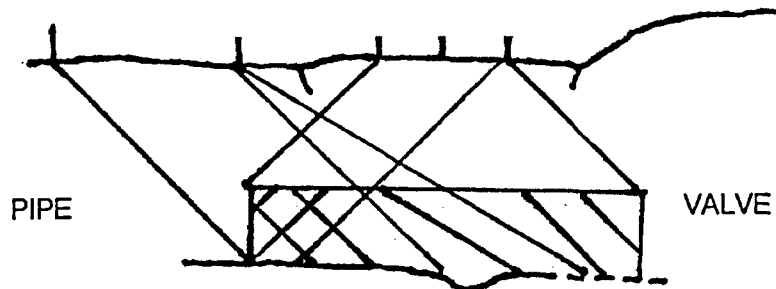


Figure 17

10"-SI-1402-17 (TYPICAL)

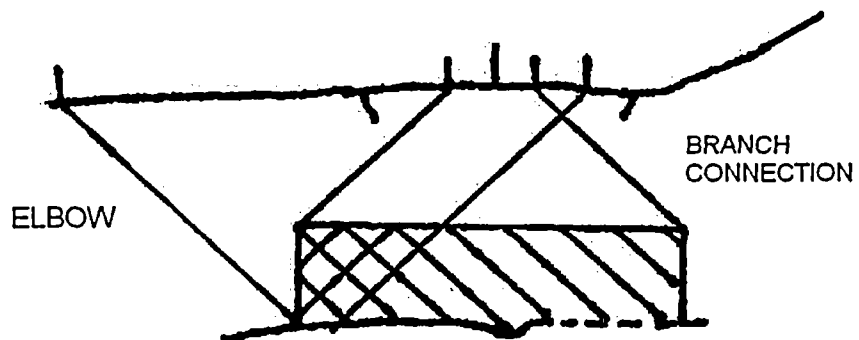


Figure 18

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

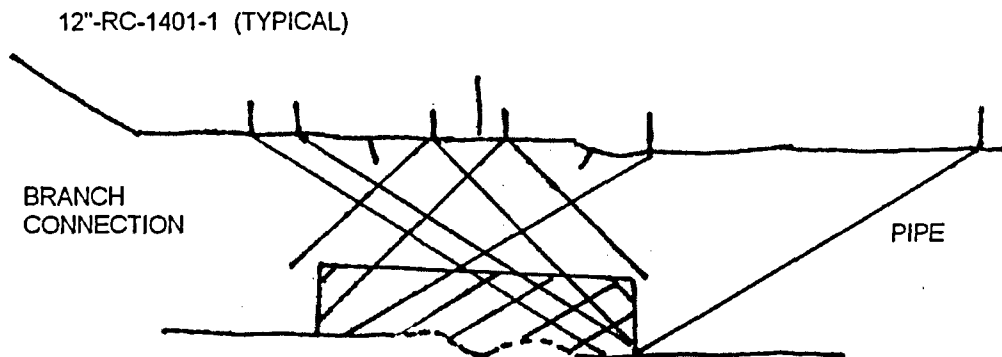


Figure 19

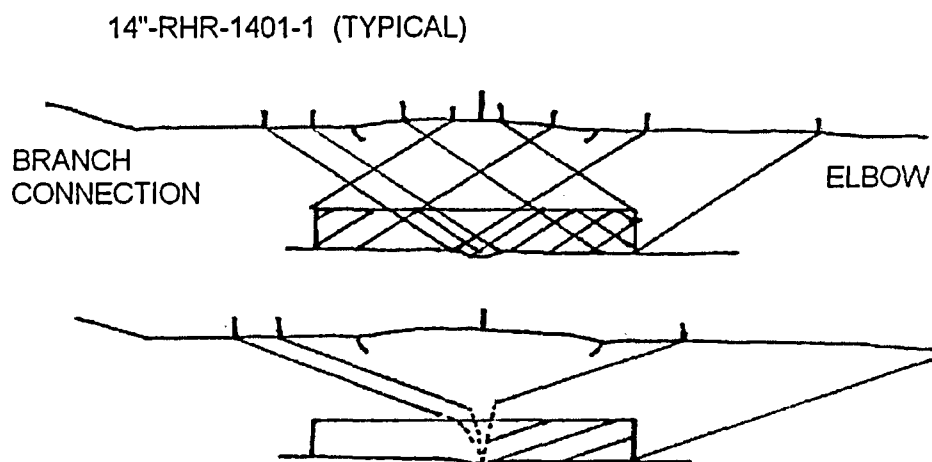


Figure 20

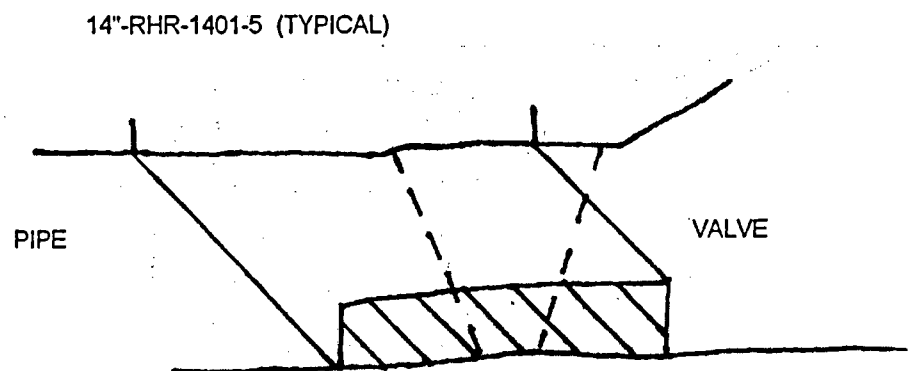


Figure 21

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

14"-RHR-1401-6 (TYPICAL)

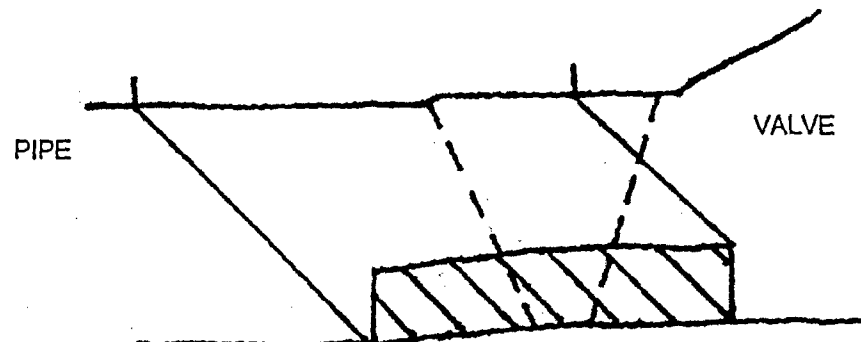


Figure 22

14"-RHR-1401-9 (TYPICAL)

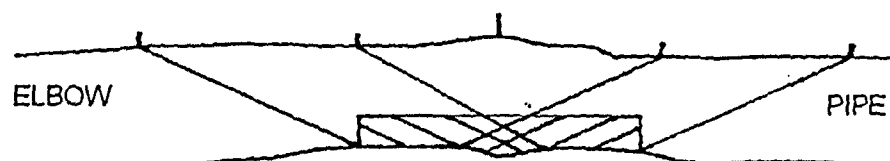


Figure 23

27.5"-RCS-1406-18 (TYPICAL)  
27.5"-RCS-1407-20  
27.5"-RCS-1409-17

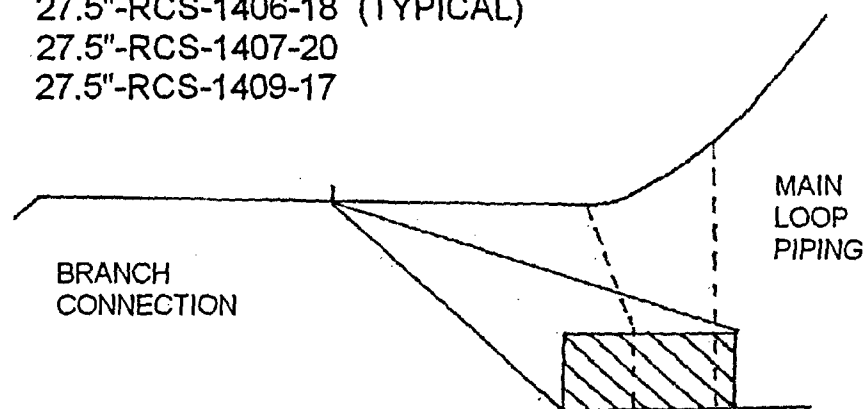


Figure 24

27.5"-RCS-1406-11 (TYPICAL)

**TURKEY POINT UNIT 4**  
**THIRD 10-YEAR INSERVICE INSPECTION INTERVAL**  
**RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

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Figure 25

Figure 26

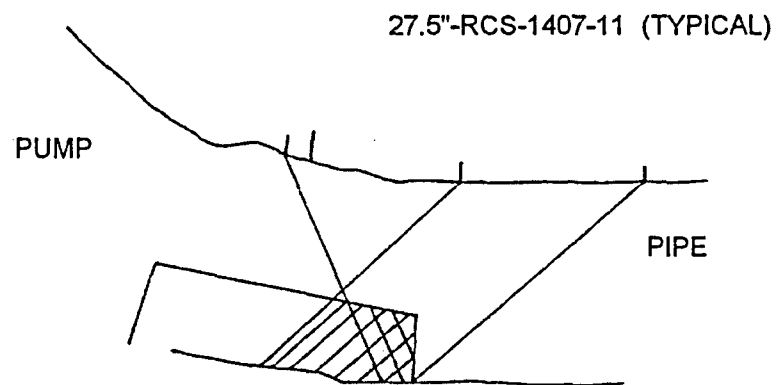
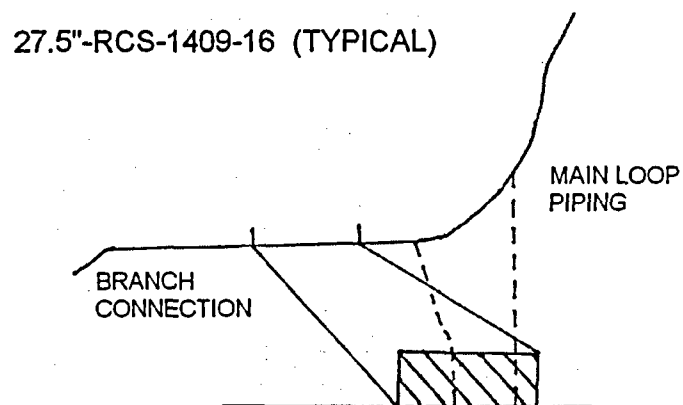


Figure 27





TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1

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29"-RCS-1404-18 (TYPICAL)

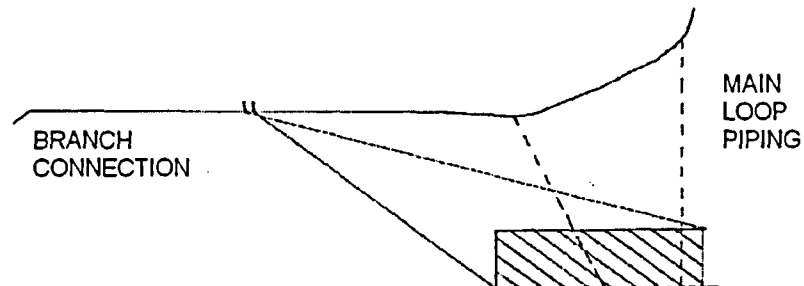


Figure 28

29"-RCS-1405-21 (TYPICAL)

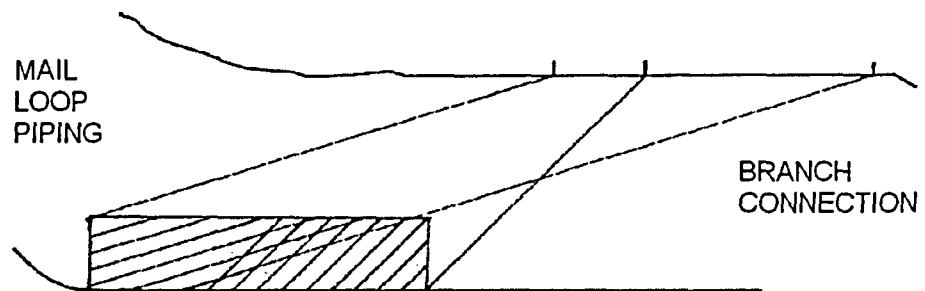


Figure 29

31"-RCS-1401-8 (TYPICAL)

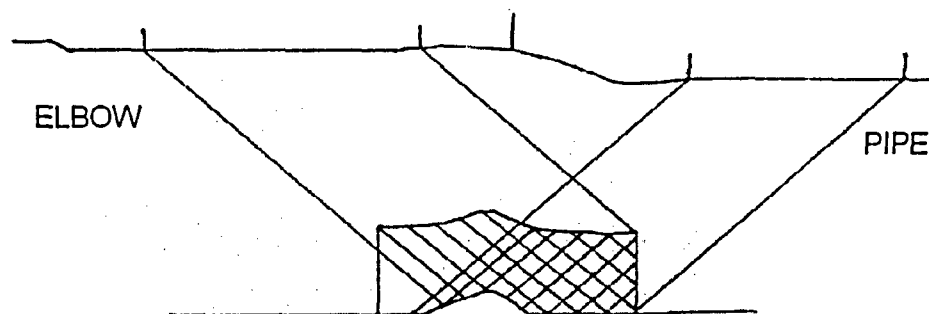


Figure 30

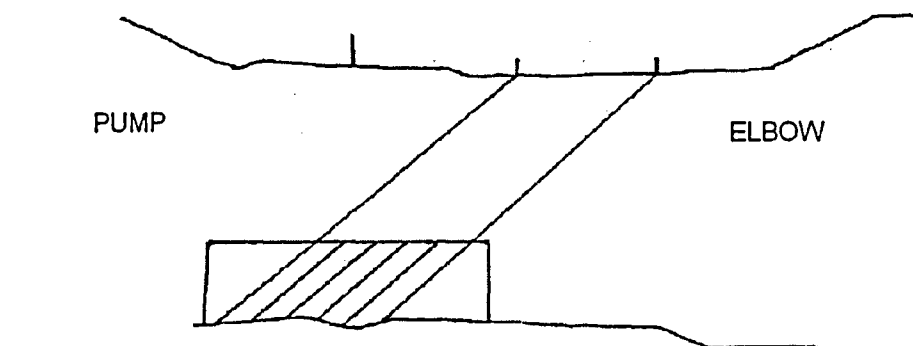
**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

31"-RCS-1401-10

PUMP

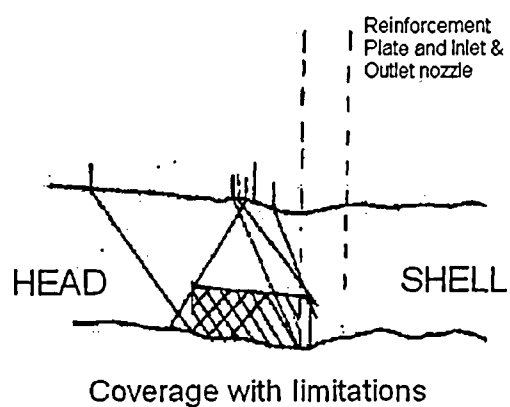
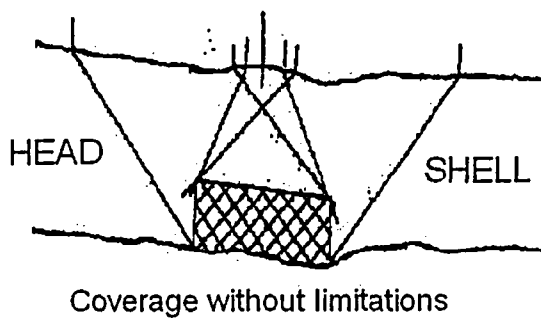
ELBOW

Figure 31



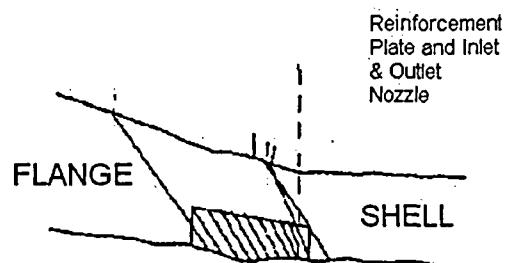
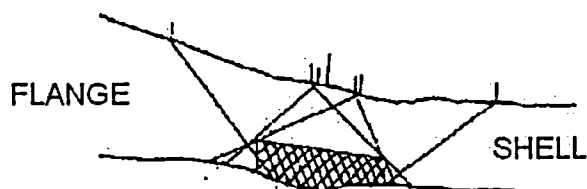
4-RHE-A1

Figure 32



4-RHE-A2

Figure 33



**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

Figure 34

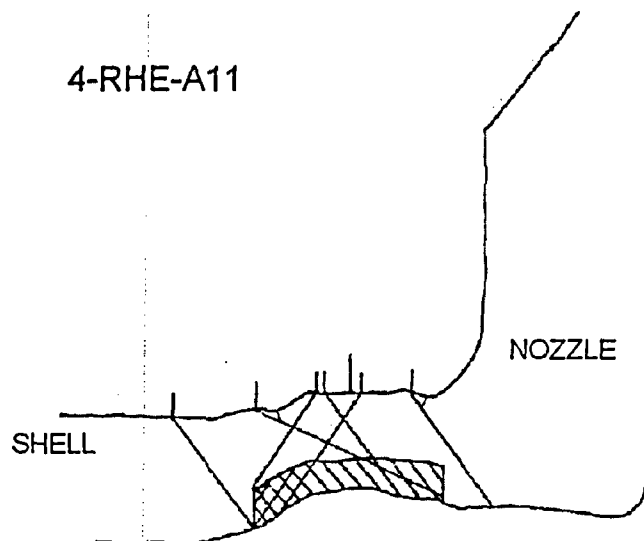


Figure 35

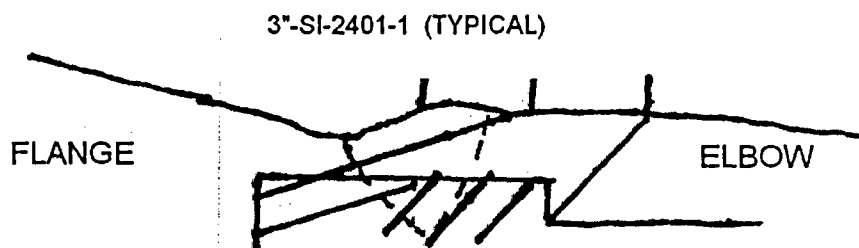
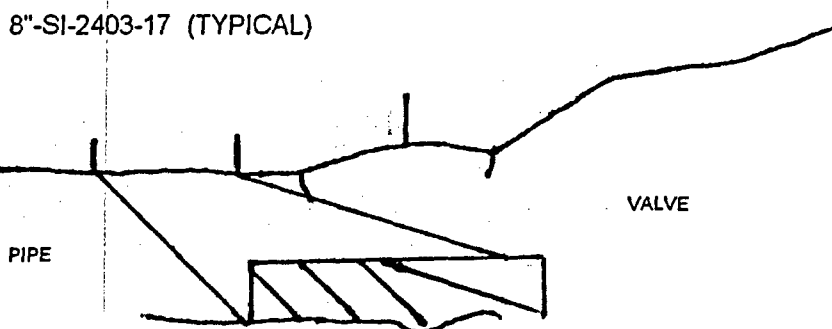


Figure 36



**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

8"-SI-2404-2 (TYPICAL)

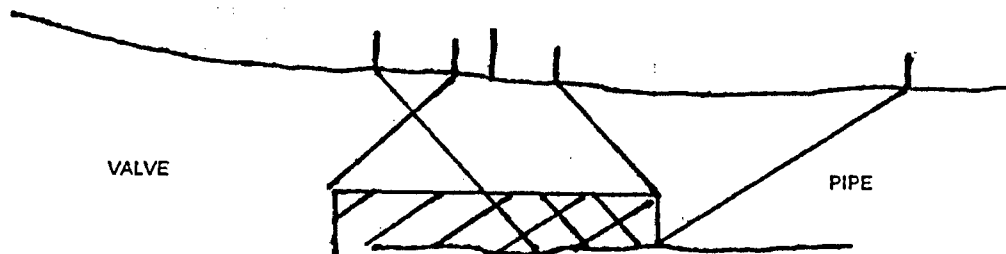


Figure 37

8"-SI-2407-8 (TYPICAL)

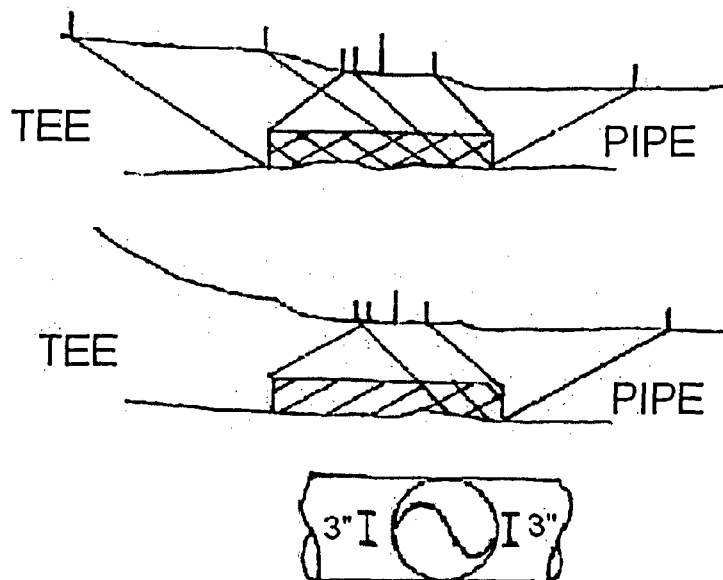


Figure 38

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

10"-SI-2407-4 (TYPICAL)

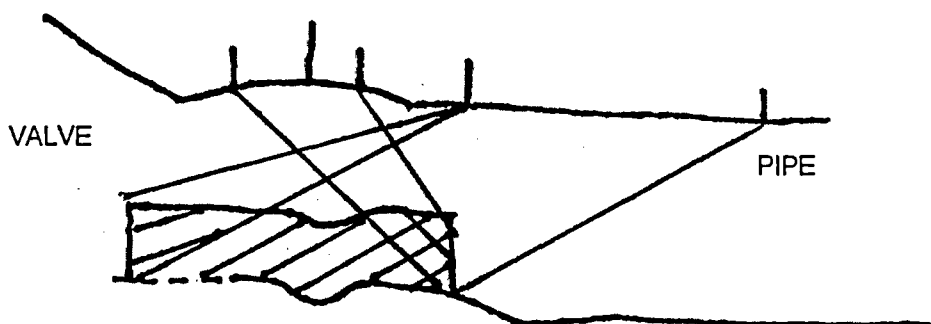


Figure 39

10"-SI-2407-5 (TYPICAL)

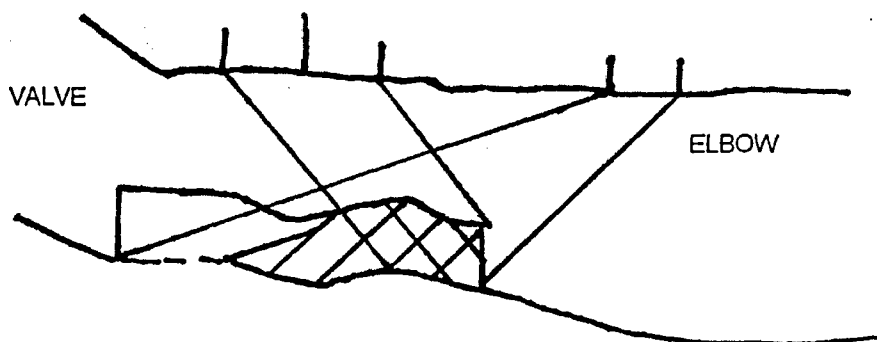


Figure 40

12"-RHR-2402-15 (TYPICAL)

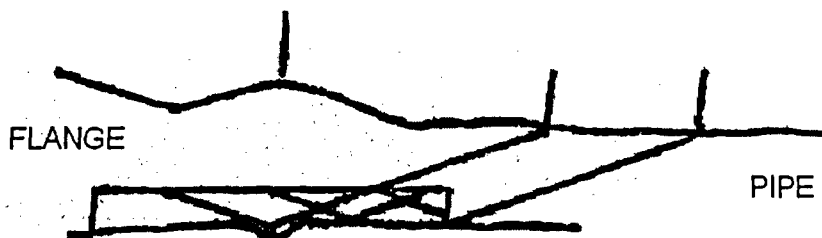


Figure 41

14"-RHR-2403-1 (TYPICAL)



**TURKEY POINT UNIT 4**  
**THIRD 10-YEAR INSERVICE INSPECTION INTERVAL**  
**RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

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Figure 42

14"-RHR-2403-2 (TYPICAL)

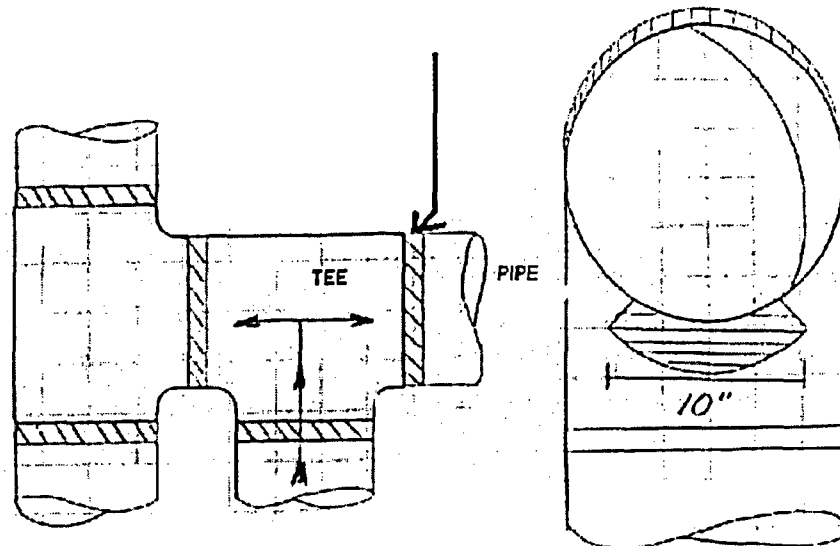


Figure 43

**TURKEY POINT UNIT 4  
THIRD 10-YEAR INSERVICE INSPECTION INTERVAL  
RELIEF REQUEST NUMBER 15A (Revised) Rev 1**

14"-RHR-2403-4 (TYPICAL)

Figure 44

