

RESPONSE TO NRC 6/28/77 REQUEST FOR ADDL INFO
ON INSERVICE INSPECTION PROGRAM: W/ATTACHED
ENCLOSURES 1 thru 5DOCKET NO. 50-272
RECEIVED WITH LETTER DATED 10/11/77
ACCESSION # 773000214

and drawings

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ENCLOSURE 1

ADDITIONAL INFORMATION FOR REVIEW OF PROPOSED INSERVICE INSPECTION AND TESTING PROGRAMS SALEM NUCLEAR GENERATING STATION

I. INSERVICE INSPECTION

- A. Examination categories missing from Table 1 (Class 1 examinations) were omitted only because there are no components or examination areas in Salem Unit No. 1 which fall into these categories. Table 1 has been revised to include these categories with an appropriate notation and the revised table is included in Attachment 1.
- B. Omissions in Table 2 (Class 2 examinations) had the same basis as Table 1. Table 2 has been revised in a like manner and included in Attachment 1.
- C. Many components in Table 3 (Class 3 examinations) were incorrectly classified due to a misinterpretation of NRC Regulatory Guide 1.26. These components have been designated as Class 2 for inspection purposes and moved from Table 3 to Table 2. Furthermore, some new components have been added to the revised Table 3 which is included in Attachment 1.

II. EXCEPTION TO SECTION XI REQUIREMENTS

A. General

- 1. Examination of bolting under categories B-G-1 and B-G-2 will be performed in accordance with Code requirements. Since the 1974 Edition of Section IX does not require bolting in these categories to be removed for examination purposes only, examination will be done with the bolts in place wherever possible. All bolts in Category B-G-1, except three bolts in each of the four reactor coolant pumps, will be examined ultrasonically in place during the inspection interval. The three bolts which are inaccessible due to interference from structural members and piping will be examined at or near the end of the inspection interval when the pumps are disassembled for maintenance. All bolts in Category B-G-2 will be examined visually during the inspection interval. If visual examination reveals indications of distress, the bolts will be removed for surface and/or volumetric examination.

2. Pumps and valves will be disassembled for visual examination of internal pressure boundary surfaces as required by Section XI if disassembly does not become necessary for other reasons.
3. Ultrasonic indications will be recorded at 50% of reference level (DAC) unless suspected by the examiner to be other than geometric in origin, in which case they will be recorded and investigated by a Level II or Level III examiner if in excess of 20% of DAC. All indications above 100% DAC will be resolved as to their shape and identity by a Level II or Level III Examiner. Justification for departure from a 20% reference level evaluation criterion for all UT examinations is explained in detail in Attachment 2, prepared by Southwest Research Institute as agents for PSE&G.
4. Ultrasonic examination of ferritic piping will be performed in accordance with Article 5 of Section V of the ASME Boiler and Pressure Vessel Code with the exception that all indications will be recorded and evaluated as indicated in paragraph 3 above.

B. Nuclear Class 1 Components

1. Inaccessibility for examination was established during the Preservice Inspection and has been described in Tables 1 and 2 of the Salem No. 1 Preoperational Baseline Examination Report. Those items which could not be examined due to inaccessibility have been extracted from these tables and compiled into an abbreviated table which has been included as Attachment 3 for convenient reference. Comments in these tables are necessarily brief. Information in greater detail has been provided in the way of additional comments, also included as part of Attachment 3. Consideration of alternate methods are discussed and in some cases sketches are attached for greater clarity.
2. Welds having limited ultrasonic examinations are treated in the same manner and are included in the tables and comments mentioned above. No distinction is made between items having no accessibility and limited inspectability except in the nature of the comment. Detailed radiographic procedures for augmented or alternative examinations will be prepared at such time as the need arises in order to take advantage of the possibility of more advanced technology at that time.

C. Nuclear Class 2 Components

1. It is the position of PSE&G that tests designated in Section XI as hydrostatic pressure tests are not true hydrostatic tests in the usual connotation of that term in that they do not provide proof testing of systems already tested at 1.25 P_D and higher, but are merely leak tests. It had been the intention of PSE&G to limit all such tests to 1.10 P_D to avoid functional problems that might be associated with higher pressures, to provide consistency among all three classes of systems, and to provide consistency with anticipated changes in future Code editions. However, the anticipated changes, as presently voted by the ASME Code Committees, do not provide sufficient relief to warrant a departure from existing Code rules, and the Salem Plan will be revised to show a test pressure of 1.25 P_D for Class 2 systems.
2. Surface examination will be used to augment ultrasonic examination whenever Section XI requirements cannot be fully complied with, such as on welds in Category C-F where UT examinations cannot be performed from either side of the weld.

III. INSERVICE TESTING OF PUMPS

- A. Statements made in Enclosure 2 of the 2/28/77 submittal regarding the applicable Code edition and addenda for pump testing were written to conform with the Salem Technical Specifications. These, in turn, were written to conform with the Standardized Technical Specifications submitted by the NRC, which in themselves were apparently in error. The Inservice Testing Program for Pumps is being revised to show conformance to the 1974 Edition and Addenda through the summer 1975.
- B. Pump bearing temperature is included as a parameter to be measured in the Salem pump testing program as stated in the fourth paragraph on page 1 of pump testing program (Enclosure 2 of the 2/28/77 submittal).
- C. The transducer type electronic flow measuring devices described in the Pump Testing Program for measuring pumped fluid flow rate have proven successful and alternate means of testing will not be necessary.

IV. INSERVICE TESTING VALVES

A. Category A, B. (and C) Valves

1. Reasons for not full or part-stroke exercising Category C check valves identified by note (1) in enclosure 3 of the 2/28/77 submittal are described in detail in Attachment 4.
2. Reasons for exercise frequency of Category C valves identified by note (2) in enclosure 3 are also described in Attachment 4. In addition, some exceptions indicated by note (1) have been deleted and enclosure 3 revised accordingly. The revised enclosure 3 is included with Attachment 4.

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TABLE 1
CLASS 1 COMPONENTS, PARTS AND METHODS OF EXAMINATION

Item No.	Examination Category Table IWB-2500	Components and Parts to be Examined	Method
Reactor Vessel			
B1.1	B-A	Longitudinal and circumferential shell welds in core region	Volumetric
B1.2	B-B	Longitudinal and circumferential welds in shell (other than those of Category B-A and B-C) and meridional and circumferential seam welds in bottom head and closure	Volumetric
B1.3	B-C	Vessel-to-flange and head-to-flange circumferential welds	Volumetric
B1.4	B-D	Primary nozzle-to-vessel welds and nozzle inside radiused section	Volumetric
B1.5	B-E	Vessel penetrations, including control rod drive and instrumentation penetrations.	Visual (IWA-5000)
B1.6	B-F	Nozzle-to-safe end welds	Volumetric and Surface
B1.7	B-G-1	Closure studs, in place	Volumetric
B1.8	B-G-1	Closure studs with nuts, when removed	Volumetric and Surface
B1.9	B-G-1	Ligaments between threaded stud holes	Volumetric
B1.10	B-G-1	Closure washers, bushings	Visual
B1.11	B-G-2	No components within this category	-
B1.12	B-H	No components within this category	-
B1.13	B-I-1	Closure Head cladding	1) Visual and Surface, or 2) Volumetric
B1.14	B-I-1	Vessel Cladding	Visual
B1.15	B-N-I	Vessel Interior	Visual
B1.16	B-N-2	Interior attachments and core support structures	Visual
B1.17	B-N-3	Core-support structures	Visual
B1.18	B-O	Control rod drive housings	Volumetric
B1.19	B-P	Exempted components	Visual (IWA-5000)
Pressurizer			
B2.1	B-B	Longitudinal and circumferential welds	Volumetric
B2.2	B-D	Nozzle-to-vessel radiused section	Volumetric
B2.3	B-E	Heater penetrations	Visual (IWA-5000)
B2.4	B-F	Nozzle-to-safe end welds	Volumetric and surface
B2.5	B-G-1	No components within this category	-
B2.6	B-G-1	No components within this category	-
B2.7	B-G-1	No components within this category	-
B2.8	B-H	No components within this category	-
B2.9	B-I-2	Vessel cladding	Visual
B2.10	B-P	Exempted components	Visual (IWA-5000)
B2.11	B-G-2	Pressure-retaining bolting	Visual

TABLE 1 CONTINUED

Item No.	Examination Category Table IWB-2500	Components and Parts to be Examined	Method
Steam Generators			
B3.1	B-B	Longitudinal and circumferential welds, including tube sheet-to-head or shell welds on the primary side	Volumetric
B3.2	B-D	Nozzle-to-head welds and nozzle inside radiused section on the primary side	Volumetric
B3.3	B-F	Nozzle-to-safe end welds	Volumetric and surface
B3.4	B-G-1	No components within this category	-
B3.5	B-G-1	No components within this category	-
B3.6	B-G-1	No components within this category	-
B3.7	B-G-1	No components within this category	-
B3.8	B-I-2	Vessel Cladding	Visual
B3.9	B-P	Exempted components	Visual (IWA-5000)
B3.10	B-G-2	Pressure-retaining bolting	Visual
		Tubing	Eddy Current
		Vessel Cladding (Steam Generator #14)	Volumetric
Piping Pressure Boundary			
B4.1	B-F	Safe-end to piping welds and safe-end in branch piping welds	Volumetric and surface
B4.2	B-G-1	No components within this category	-
B4.3	B-G-1	No components within this category	-
B4.4	B-G-1	No components within this category	-
B4.5	B-J	Circumferential and longitudinal pipe welds	Volumetric
B4.6	B-J	Branch pipe connection welds exceeding six in. diameter	Volumetric
B4.7	B-J	Branch pipe connection welds six in. diameter and smaller	Surface
B4.8	B-J	Socket welds	Surface
B4.9	B-K-1	Integrally welded supports	Volumetric
B4.10	B-K-2	Support components	Visual
B4.11	B-P	Exempted components	Visual (IWA-5000)
B4.12	B-G-2	Pressure-retaining bolting	Visual
Reactor Coolant Pumps			
B5.1	B-G-1	Pressure-retaining bolts and studs, in place	Volumetric
B5.2	B-G-1	Pressure-retaining bolts and studs, when removed	Volumetric and surface
B5.3	B-G-1	Pressure-retaining bolting	Visual
B5.4	B-K-1	Integrally-welded supports	Volumetric

TABLE 1 CONTINUED

Item No.	Examination Category Table IWB-2500	Components and Parts to be Examined	Method
B5.5	B-K-2	Support components	Visual
B5.6	B-L-1	Pump casing welds	Volumetric
B5.7	B-L-2	Pump casing	Visual
B5.8	B-P	Exempted components	Visual (IWA-5000)
B5.9	B-G-2	No components within this category	-
		Pump Flywheel	Volumetric and surface
Valves			
B6.1	B-G-1	No components within this category	-
B6.2	B-G-1	No components within this category	-
B6.3	B-G-1	No components within this category	-
B6.4	B-K-1	No components within this category	-
B6.5	B-K-2	Support components	Visual
B6.7	B-M-2	Valve bodies	Visual
B6.8	B-P	Exempted components	Visual (IWA-5000)
B6.9	B-G-2	Pressure-retaining bolting	Visual

ATTACHMENT 1

TABLE 2
CLASS 2 COMPONENTS, PARTS, AND METHODS OF EXAMINATION

Item No.	Examination Category Table IWC-2520	Components and Parts to be Examined	Method
Pressure Vessels ¹			
C1.1	C-A	Circumferential butt welds	Volumetric
C1.2	C-B	Nozzle-to-vessel welds	Volumetric
C1.3	C-C	Integrally-welded supports	Surface
C1.4	C-D	Pressure-retaining bolting	Visual and either surface or volumetric
Piping			
C2.1	C-F, C-G	Circumferential butt welds	Volumetric
C2.2	C-F, C-G	Longitudinal weld joints in fittings	Volumetric
C2.3	C-F, C-G	Branch pipe-to-pipe weld joints	Volumetric
C2.4	C-D	Pressure-retaining bolting	Visual and either surface or volumetric
C2.5	C-E-1	Integrally-welded supports	Surface
C2.6	C-E-2	Support components	Visual
Pumps ¹			
C3.1	C-F, C-G	Pump casing welds	Volumetric
C3.2	C-D	Pressure-retaining bolting	Visual and either surface or volumetric
C3.3	C-E-1	Integrally-welded supports	Surface
C3.4	C-E-2	Support components	Visual
Valves			
C4.1	C-F, C-G	No components within this category	-
C4.2	C-D	Pressure-retaining bolting	Visual and either surface or volumetric
C4.3	C-E-1	Integrally-welded supports	Surface
C4.4	C-E-2	Support components	Visual

¹ Components subject to examination:

Charging Safety Injection Pumps 11, 12, and 13
 No. 1 Reactor Coolant Filter
 No. 1 Excess Letdown Heat Exchanger (Tube Side)
 No. 1 Regenerative Heat Exchanger
 No. 1 Letdown Heat Exchanger (Tube Side)
 Accumulators 11, 12, 13, and 14
 Boron Injection Tank
 Refueling Water Tank
 Safety Injection Pumps 11 and 12
 RHR Heat Exchangers 11 and 12
 RHR Pumps 11 and 12
 Chemical Volume and Control Tank
 Head Tanks 11, 12, 13 and 14
 Refueling Water Storage Tank Heat Exchanger
 Refueling Water Storage Tank Heating Water Recirc. Pump
 Containment Spray Pumps 11 and 12
 Steam Generators 11, 12, 13 and 14 (Shell Side)

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TABLE 3

CLASS 3 COMPONENTS

Examination In Accordance With IWD-2400 (Visual)

Reactor Coolant System

Pressurizer Relief Tank

Chilled Water System

1. Chillers #11, 12 and 13
2. Chilled Water Strainers
3. No. 1 Expansion Tank
4. Chilled Water Pumps

Chemical Volume & Control - Operations

1. Resin Fill Tank²
2. No. 1 Chemical Addition Tank²
3. No. 1 Boric Acid Batching Tank²
4. Boric Acid Tanks 11 and 12²
5. Boric Acid Transfer Pumps³
6. Boric Acid Filter¹
7. Seal Water Filter¹
8. Seal Water Injection Filter 11 and 12¹
9. No. 1 Excess Letdown Heat Exchanger (Shell Side)²
10. No. 1 Letdown Heat Exchanger (Shell Side)²
11. No. 1 Seal Water Heat Exchanger¹
12. Mixed Bed Demineralizers 11 and 12
13. Deborating Demineralizers 11 and 12¹
14. Cation Bed Demineralizer¹
15. Boric Acid Blender²

Chemical Volume & Control-Boric Acid Recovery

1. Hold-up Tanks 11, 12 and 13¹
2. No. 1 Concentrates Holding Tank²
3. No. 1 Hold-Up Tank Recir. Pump³
4. Gas Stripper Feed Pumps 11 and 12³
5. Concentrates Holding Tank Transfer Pump 11 and 12³
6. No. 1 Concentrates Filter¹
7. No. 1 Ion Exchange Filter¹
8. Evaporator Feed Ion Exchangers 11, 12, 13 and 14¹
9. Gas Stripper and Boric Acid Evaporator Package^{1&2}

Footnotes 1, 2 and 3 - See Page 4

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TABLE 3 (CONTINUED)

Chemical Volume & Control - Primary Water Recovery

1. Monitor Tanks 11 and 12¹
2. No. 1 Primary Water Storage Tank¹
3. Monitor Tank Pumps 11 and 12³
4. Primary Water Make-Up Pumps
5. Primary Water Storage Tank Heating Recirc. Pump
6. No. 1 Distillate Filter¹
7. No. 1 Primary Water Storage Tank Heat Exchanger²
8. Evaporator Distillate Demineralizers 11 and 12¹

Containment Spray

1. Spray Additive Tank¹

Auxiliary Feedwater

1. Auxiliary Feed Storage Tank¹
2. Auxiliary Feed Pump 11 and 12³
3. No. 1 Auxiliary Feedwater Storage Tank
Heating Water Circulator Pump
4. No. 1 Feedwater Storage Tank Heat Exchanger²

Waste Disposal Liquid

1. Waste Monitor Tanks
2. No. 1 Reactor Coolant Drain Tank
3. No. 1 Spent Resin Storage Tank
4. Waste Monitor - Holdup Tank
5. Waste Holdup Tank 11 and 12
6. Auxiliary Building Sump Tank
7. No. 1 Reagent Tank
8. Laundry and Hot Shower Tank 11 and 12
9. No. 1 Chemical Drain Tank
10. Reactor Coolant Drain Pumps
11. Waste Monitor Tank Pumps
12. Waste Monitor Holdup Tank Pumps
13. Waste Evaporator Feed Pumps
14. No. 1 Laundry Pump
15. No. 1 Chemical Drain Tank Pump
16. Waste Disposal Filter
17. No. 1 Waste Evaporator

Footnotes 1, 2 and 3 - See Page 4

ATTACHMENT 1

TABLE 3 (CONTINUED)

Sampling

1. Volume Control Tank Sample Vessel¹
2. Boron Sample Tank¹
3. Pressurizer Steam Sample Vessel¹
4. Pressurizer Liquid Sample Vessel¹
5. Reactor Coolant Sample Vessel¹
6. Steam Generator Sample Heat Exchanger 11, 12, 13 and 13 and 14¹
7. Steam Generator Main Steam Sample Heat Exchanger¹
8. Pressurizer Steam Sample Heat Exchanger¹
9. Pressurizer Liquid Sample Heat Exchanger¹
10. Reactor Coolant Sample Heat Exchanger¹

Waste Disposal Solid

1. No. 1 Seal Water Tank
2. Evaporator Bottoms Hold-up Tank
3. Evaporator Bottoms Trans. Pump 1 and 2
4. Evaporator Bottoms Metering Pump 1 and 2
5. Resin Slurry Metering & Trans. Pump 1 and 2
6. Waste Removal Pump 1 and 2

Component Cooling

1. Component Cooling Surge Tank²
2. Component Cooling Pumps 11, 12 and 13
3. Component Cooling Heat Exchangers²

Spent Fuel Cooling

1. Spent Fuel Pit Pumps 11 and 12
2. Spent Fuel Pit Skimmer Pump
3. Refueling Water Purification Pump
4. Spent Fuel Pit Skimmer Filter
5. Spent Fuel Pit Filter¹
6. Refueling Water Purification Filter¹
7. Spent Fuel Pit Heat Exchanger¹
8. No. 1 Spent Fuel Pit Demineralizer¹

Service Water

1. Service Water Pumps 11, 12, 13, 14, 15 and 16
2. Service Water Pump Strainers 11, 12, 13, 14, 15 and 16¹
3. Service Water Intake Sump Pumps

Footnotes 1, 2 and 3 - See Page 4

Footnote #1 - Designed to 1968 Edition ASME Section III Class C -
Classified Nuclear Class 3 in accordance with
NRC Regulatory Guide 1.26.

Footnote #2 - Designed to 1968 Edition ASME Section VIII -
Classified Nuclear Class 3 in accordance with the
1970 Winter Addenda of ASME Section III, and NRC
Regulatory Guide 1.26.

Footnote #3 - Designed to the 1968 ASME Pump and Valve Code -
Classified Nuclear Class 3 in accordance with
NRC Regulatory Guide 1.26.

Title: Comments Concerning the 20 Percent Versus 100 Percent Evaluation Level for Ultrasonic Examination of Nuclear Power Plant Piping

Introduction

- I. The Nuclear Regulatory Commission (NRC) has asked several plant owners for detailed information to justify two things.
 - A. That a 20% reference level evaluation criterion is impractical and
 - B. That a 100% reference level evaluation criterion will provide a level of safety comparable to the Section V code requirements (of evaluation at 20%).

Discussion

- II. Southwest Research Institute (SwRI) presents the following considerations on these two closely related questions, taking them in order:
 - A. The impracticality of recording/evaluation at the 20% reference level.
 1. The welded joints in nuclear piping frequently contain code-allowable wall thickness differences (12-1/2% of thickness) as well as allowable weld droptrough and other conditions such as counterbore taper, crown, etc. These conditions can provide an extremely large number of geometric reflectors (with or without mode conversion) which produce ultrasonic examination (UT) indications greater than 20% of the UT reference level (DAC) (see attached graph). Weld metal in stainless steel piping contains, in addition, reflectors due to metallurgical grain structure which can also produce indications greater than 20% DAC. It appears that the incidence of geometric reflectors increases exponentially as the amplitude is reduced.
 2. Two stress-corrosion cracks are known to have been missed by SwRI normal examination techniques. However, they were not missed because of lack of detectability; indications of 141% and 159% DAC were obtained from these stress-corrosion cracks in the HAZ. They were not identified because of the large number of equally high amplitude geometric indications from the adjacent root area which, in effect, masked the test data to preclude identifying these cracks. Reducing the recording level to 20% will cause this problem to exist on a much larger scale in that the tremendous increase in recorded indication data will obscure real flaw indications.
 3. During the performance of inservice inspections, significant radiation exposure is being experienced by all the inservice examination personnel. In SwRI's experience the examination staff receives essentially all of the legally allowed radiation exposure when recording 50% DAC data. To evaluate and record

20% data would require that the personnel spend several times as much time in a radiation area to obtain additional ultrasonic data which is not practically decipherable and would require a proportional increase in radiation exposure to the available examination personnel. Therefore, these personnel would not be available for the performance of ultrasonic examinations of as many lines or at as many sites. Necessarily, this would force the industry to reduce the sampling rate of examinations because of the inavailability of trained personnel. The reduction of sample size would have a detrimental effect on the monitoring of plant integrity through inservice inspection and would eliminate the non-mandatory examinations presently performed by the utilities in the interest of promptly examining known or suspected problem areas.

4. A typical example of the impracticality of the 20% level recording/evaluation practice involved the examination of the 4" Recirculation Bypass lines in a nuclear power plant. The job required both 45-degree and 60-degree angle-beam examinations on one or both sides of 20 pipe welds having a total of 450 inches of weld examination length. To demonstrate the impact of the 20% recording criteria to the utility, a small sample of a randomly selected weld was examined. Because of radiation levels, the demonstration was limited to one hour. In that hour, 15 separate indications were recorded with the 60-degree examination in 5/8-inch of weld length while 10 indications were recorded with the 45-degree examination in 1-7/8 inches of weld length. Only maximum amplitude positions were recorded and most indications were found in the 20-28% DAC range. All indications of 20% DAC and greater were recorded. It is recognized that this was a very small sample, but it is believed to be typical of 4" bypass line welds. The three-man crew successfully completed the examinations recording at the 50% level within the one-day of examination time available on the unit. Evaluation time would have been increased proportionately with dubious conclusions due to the sheer volume of data. The welds were judged to be free of cracks based on the 50% DAC recording and 100% evaluation criteria and several months of successful operation without leaking confirmed that these examinations, like those performed at several other sites, were effective.

B. Evaluation at 100% and greater provides equivalent safety.

1. Equivalent safety, comparable to code* requirements, is assured by the recording/evaluation criteria developed, refined, and

*It must be noted that the 100% evaluation criteria was (and is) the Code requirement for utilities committed to the 1971 Edition of Section XI (S71 Addenda). The inconsistency arose when the 1974 Edition of Section XI incorporated Section V by reference. In the Summer 1976 Edition (IWA-2232) the ASME has reconfirmed its previous position by clearly requiring evaluation of only indications of 100% DAC or greater.

qualified by SwRI through many years of research and experience. This criteria is embodied in current SwRI practice, which requires that:

- (a) All indications 50% of DAC or greater shall be recorded.
- (b) All indications 100% of DAC or greater shall be investigated by a Level II or Level III operator to the extent necessary to determine the shape, identity, and location of the reflectors.
- (c) Any indication 20% of DAC or greater and suspected by the operator to be other than geometric in nature, including all 20% or greater indications originating in the base metal, shall be recorded and investigated by a Level II or Level III examiner to the extent necessary to determine the shape, identity, and location of the reflector.
- (d) Any indications investigated and found to be other than geometric in nature shall be reported to the owner for evaluation and disposition.

SwRI's long-standing requirement to record 50% DAC information reflects the necessity to record a sublevel of data below that point at which we feel a concern. The prime reason for recording this information is to allow for the known variation in reproducibility of test data. We have shown data reproducibility to be a factor caused by many things including operator experience, training, procedure, equipment variations, environmental encumbrances, test piece conditions, calibration standards, etc. These factors are routine and will continue to occur during the application of examinations of this nature on piping. This practice is believed to be more conservative than the intent of any edition of the Code and to provide greater safety at less cost in time, dollars, and radiation exposure to personnel than simply requiring the recording/evaluation of all 20% DAC data.

2. The adequacy of this practice is supported by the following:

- (a) Except for a very limited number of applications of the 20% evaluation level criteria of Paragraph IX-3470 of the 1971 issue of Section III, the 100% reference level evaluation criteria of Paragraph IS-213.5 of the Summer 1971 Addenda to Section XI was in effect until the adoption in late 1976 of the 1974 Edition of Section XI. The 100% recording criteria was endorsed by the Section V Subcommittee for Nondestructive Examination in a Code Inquiry of 1973, and appeared in Paragraph T-544 of the 1974 Edition of Section V. There is no question of the overall success of the inservice examination program during these many years, and the 100% evaluation criteria was reconfirmed by ASME in Paragraph IWA-2232 of the Summer 1976 Addenda to the Section XI code.

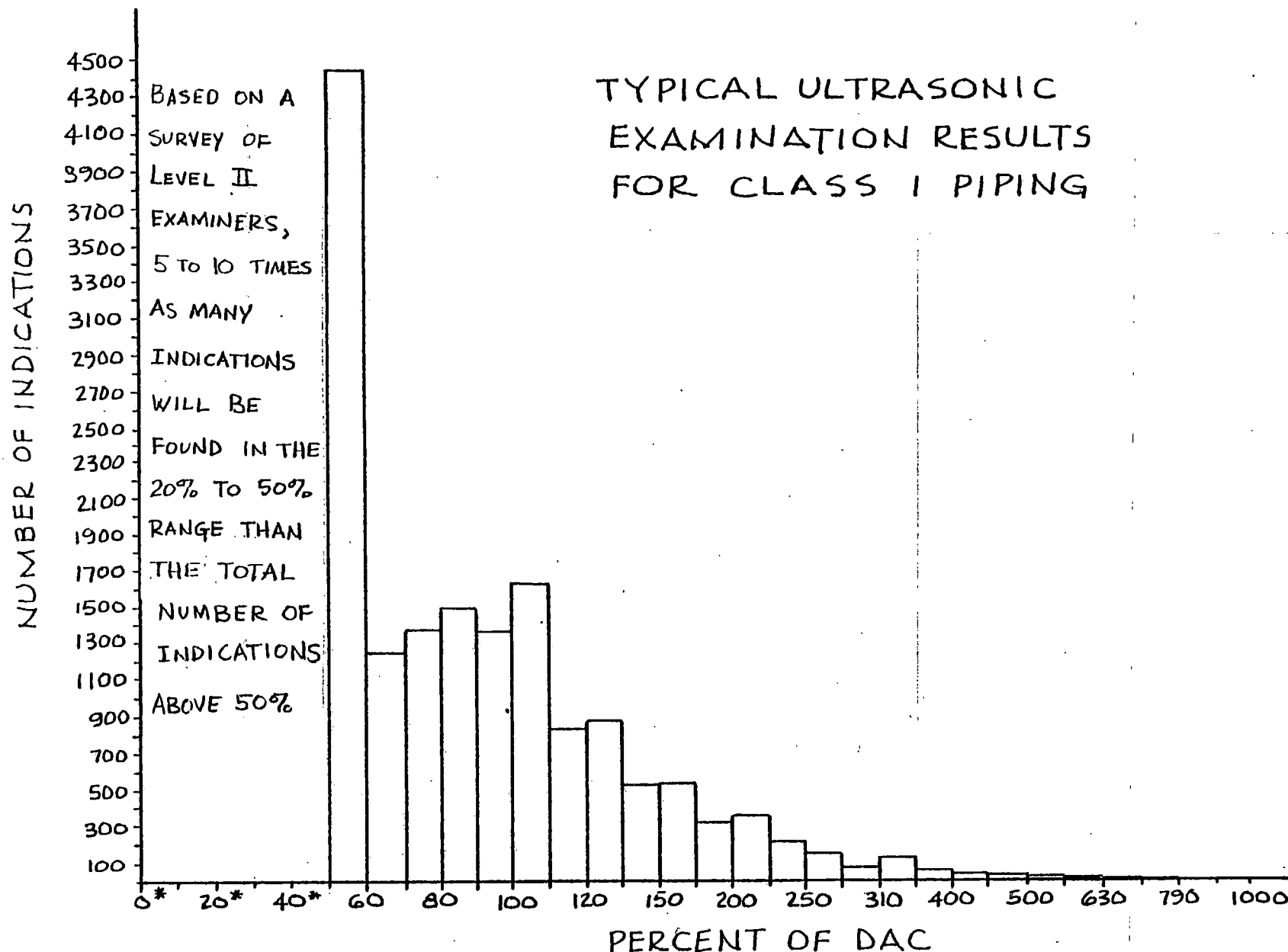
- (b) As a result of the different failure mode of austenitic piping (noted in Paragraph (d) below) SwRI had developed modified approaches in procedure to maintain assurance of maximum crack detection sensitivity. Search unit size, frequency and beam angle, as well as procedure, are optimized to take advantage of the known parameters of the type of failure to be detected and investigated in different situations.
- (c) While it has been demonstrated that significantly deep through-wall stress-corrosion cracking may give only a low amplitude response, it has been demonstrated by SwRI on multiple plants that the 100% evaluation criteria, augmented by operator investigation at the 20% level, can be applied with satisfactory results:
 - (1) No component or pipe examined by SwRI has experienced leaking by way of a stress-corrosion crack between the periodic examinations.
 - (2) At least 48 piping cracks have been found and repaired in the early stages of propagation.
- (d) Much experience has shown that the typical mode of failure in stainless steel piping is not in the weld metal, per se, but is "stress-corrosion cracking" in the adjacent heat-affected zone (HAZ) and base metal. A trained UT operator can distinguish the difference between the usual weld-metal geometric indications and the somewhat similar indications due to stress-corrosion cracking by noting their location in the base metal of HAZ. This is true even when their amplitude is in the 20% to 50% range and even though indications in this range originating in the weld metal cannot be identified.
- (e) A prime example of the adequacy of the total SwRI examination technique is that Recirculation Bypass lines have been ultrasonically examined in accordance with RO Bulletin 74-10 in six nuclear power plants. Thirteen cracks were found in four plants and the findings were confirmed by other methods, including excavation, in all cases. As noted above, no component or pipe examined by SwRI has experienced leaking by way of stress-corrosion cracking between periodic examinations.

Summary and Conclusions

- III. For the reasons enumerated above, SwRI recommends to its clients that, in the interests of maintaining maximum nuclear power plant integrity and safety at minimum cost in time and personnel radiation exposure, any effort to institute a blanket 20% DAC recording/evaluation criteria

be resisted. Instead, SwRI recommends a commitment to the SwRI recording/evaluation practice which was set out in Paragraph B.1 above and is reiterated below:

- (a) All indications 50% of DAC or greater shall be recorded.
- (b) All indications 100% of DAC or greater shall be investigated by a Level II or Level III operator to the extent necessary to determine the shape, identity, and location of the reflectors.
- (c) Any indication 20% of DAC or greater suspected by the operator to be other than geometric in nature, including all 20% or greater indications originating in the base metal, shall be recorded and investigated by a Level II or Level III examiner to the extent necessary to determine the shape, identity, and location of the reflector.
- (d) Any indications investigated and found to be other than geometric in nature shall be reported to the owner for evaluation and disposition.



* NO RECORDED DATA AVAILABLE FOR TABULATION.

ATTACHMENT 3

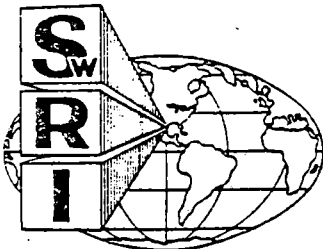
WELDS EXAMINED DURING THE PRESERVICE INSPECTION
OF SALEM 1 WHERE THE COMPLETE EXAMINATION AS
PRACTICABLE COULD NOT SATISFY THE NORMAL CODE REQUIREMENTS

(Extracted from the Final Report)

Prepared for:

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SALEM NUCLEAR GENERATING STATION UNIT-1
SUMMARY OF NONDESTRUCTIVE EXAMINATIONS
CLASS 1 COMPONENTS

DATE: 08/03/77
PAGE: 001

REACTOR PRESSURE VESSEL (SEE FIG. C-1)

ASME SECT. XI ITEM NO.	ASME SECT. XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE SHEET NO./REV.	SUMMARY SHEET NUMBER	N.I. O.N.Q.T B.B.E.H E.I.D.E C.G.H.R	REMARKS
CIRCUMFERENTIAL WELDS							
1.2	B	1-RPV-4043 LOWER HEAD DISC TO PEEL SEGMENTS	SEE RMKS --	001300	X . . .		THIS WELD IS WITHIN THE INSTRUMENTATION TUBE CLUSTER AND WAS NOT EXAMINED.

VESSEL PENETRATIONS

1.5	E-1	CONTROL ROD DRIVE TUBES	SEE RMKS --	003650	X . . .		CONTROL ROD DRIVE TUBES ARE WELDED TO THE UPPER HEAD WITH A PARTIAL PENETRATION WELD AND AN INTEGRALLY WELDED THERMAL SLEEVE. VOLUMETRIC INSPECTION IS NOT POSSIBLE BY CURRENTLY AVAILABLE TECHNIQUES.
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SALEM NUCLEAR GENERATING STATION UNIT-1
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REACTOR PRESSURE VESSEL CLOSURE HEAD (SEE FIG. C-2)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G Y R S E H E I O E C G M R	REMARKS
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CIRCUMFERENTIAL WELDS

1.2	B	1-RPV-60468 DOLLAR PLATE	SEE RMKS --	004400	X . . .	WELD IS COVERED BY CRD SHROUD ASSEMBLY AND WAS NOT EXAMINED.
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SALEM NUCLEAR GENERATING STATION UNIT-1
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CHEM AND VOL CONTROL SYSTEM, LINE NO. 3-CV-1143 (SEE FIG. C-8)

ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	BWRI PROCEDURE SHEET NO./REV.	SUMMARY SHEET NUMBER	N I O O N G I R S E H E I O F C O M R	REMARKS
4.4	J-1	3-CV-1143-1 BRANCH CONNECTION TO TEE	VT UTGW UT45T	900-1/13 600-3/16 600-3/16	012200 012200 012200	X X X	NO UT FROM EITHER SIDE DUE TO THE BRANCH CONNECTION AND TEE CONFIGURATION. *****CAL. STD,***** 3-88-160-451-30-8AM
4.4	J-1	3-CV-1143-2 TEE TO VALVE	VT UTGW UT45T	900-1/13 600-3/16 600-3/16	012300 012300 012300	X X X	NO UT FROM EITHER SIDE DUE TO TEE AND VALVE CONFIGURATION. *****CAL. STD,***** 3-88-160-451-30-8AM

SALEM NUCLEAR GENERATING STATION UNIT-1
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CHEM AND VOL CONTROL SYSTEM, LINE NO. 3-CV-1141 (SEE FIG. C-9)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE SHEET NO./REV.	SUMMARY NUMBER	N.I. O.N.G.T. R.O.E.H. E.I.D.E. C.Q.H.R.	REMARKS
4.4	J-1	3-CV-1141-13 VALVE TO VALVE	VT UTDH	900-1/13 600-3/16	016600 016600	X - - - X - - -	NO UT FROM EITHER SIDE DUE TO VALVE CONFIGURATIONS. NO UTYST DUE TO WELD CROWN CONFI- GURATION. *****CAL. STD.***** 3-89-160, 451-30-9AM

SALEM NUCLEAR GENERATING STATION UNIT-1
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CHEM AND VOL CONTROL SYSTEM, LINE NO. 3-CV-1133 (SEE FIG. C-10)

ASME SECT. XI ITEM NO	ASME SECT. XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI NO./REV.	SUMMARY PROCEDURE SHEET NUMBER	N 1 O N O T B 8 E H E 1 D E C 0 M R	REMARKS
4,4	J-1	3-CV-1133-14 VALVE TO VALVE	VT UTOM UT45T	900-1/13 600-3/16 600-3/16	018200 018200 018200	X = = = X = + = X = - =	NO UT FROM EITHER SIDE DUE TO THE VALVE CONFIGURATION, *****CAL. STD.***** 3-99-160-481-30-8AM

SALEM NUCLEAR GENERATING STATION UNIT-1
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PRESSURE RELIEF SYSTEM, LINE NO. 6-PR-1105 (SEE FIG. C-13)

ASME SECT. XI ITEM NO	ASME SECT. XI CATOY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D E M E I C O M P O N E N T S	REMARKS
4.3	F	6-PR-1105-1 NOZZLE TO SAFE-END	VT PT UTOW UT45T	900-1/13 200-1/11 600-3/16 600-3/16	022200 022200 022200 022200	X X X X	NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE NOZZLE AND SAFE-END CONFIGURATION, *****CAL, STD,***** 6-83-160, 764-25-8AM
4.4	J-1	6-PR-1105-2 SAFE-END TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	022300 022300 022300 022300	X X X X	NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE SAFE- END AND ELBOW CONFIGURATION, *****CAL, STD,***** 6-83-160, 764-25-8AM
4.5	J-1	6-PR-1105-4 ELBOW TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	022700 022700 022700 022700	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE, *****CAL, STD,***** 6-83-160, 764-25-8AM
4.6	J-1	6-PR-1105-11 ELBOW TO FLANGE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	023200 023200 023200 023200	X X X X	NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE ELBOW CURVATURE AND FLANGE CONFIGU- RATION, *****CAL, STD,***** 6-83-160, 764-25-8AM

SALEM NUCLEAR GENERATING STATION UNIT-1
SUMMARY OF NONDESTRUCTIVE EXAMINATIONS
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PRESSURE RELIEF SYSTEM, LINE NO. 6-PR-1104 (SEE FIG. C-14)

ASME SECT XI ITEM NO.	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI NO./REV.	SUMMARY SHEET NUMBER	N I Q O N O Y R S E H E I O F C O M R	REMARKS
4.1	F	6-PR-1104-1 NOZZLE TO SAFE-END	VT PT UTGW UT45T	900-1/13 800-1/11 600-3/16 600-3/16	023400 023400 023400 023400	- - - X X - - - X - - - X - - -	VT REVEALED ARC STRIKE, CLEARED BY PSEEG WITH CNF #80 NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE NOZZLE AND SAFE-END CONFIGURATION. *****CAL. STD.***** 6-88-160-764-25-8AM
4.2	J-1	6-PR-1104-2 SAFE-END TO ELBOW	VT UTOL UTGW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	023500 023500 023500 023500	- - - X X - - - X - - - X - - -	VT REVEALED ARC STRIKES, CLEARED BY PSEEG WITH CNF #79 NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO SAFE-END CONFIGURATION AND ELBOW CUR- VATURE. *****CAL. STD.***** 6-88-160-764-25-8AM
4.3	J-1	6-PR-1104-3 ELBOW TO ELBOW	VT UTOL UTGW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	023600 023600 023600 023600	- - - X X - - - X - - - X - - -	VT REVEALED ARC STRIKES AND UNDERCUT, CLEARED BY PSEEG WITH CNF #78, NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE. *****CAL. STD.***** 6-88-160-764-25-8AM
4.4	J-1	6-PR-1104-6 ELBOW TO ELBOW	VT UTOL UTGW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	023900 023900 023900 023900	X - - - X - - - X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE, *****CAL. STD.***** 6-88-160-764-25-8AM
4.5	J-1	6-PR-1104-11 ELBOW TO FLANGE	VT UTOL UTGW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	024400 024400 024400 024400	X - - - X - - - X - - - X - - -	NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE ELBOW CURVATURE AND FLANGE CONFIGU- RATION. *****CAL. STD.***** 6-88-160-764-25-8AM

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PRESSURE RELIEF SYSTEM, LINE NO. 6-PR-1103 (SEE FIG. C-15)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N O N D E S T R U C T I V E	R E V E A L E D	R E M A R K S
4.1	F	6-PR-1103-1 NOZZLE TO SAFE-END	VT PT UTOW UT45T	900-1/13 800-1/11 600-3/16 600-3/16	024600 024600 024600 024600	X X X X	- - - -	NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE NOZZLE AND SAFE-END CONFIGURATION, *****CAL. STD.***** 6-98-XX-1,5-64-8AM
4.4	J-1	6-PR-1103-2 SAFE-END TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	024700 024700 024700 024700	X X X X	- - - -	NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE SAFE- END CONFIGURATION AND ELBOW CURVATURE, *****CAL. STD.***** 6-98-160-,764-25-8AM
4.4	J-1	6-PR-1103-3 ELBOW TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	024800 024800 024800 024800	X X X X	- - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE, *****CAL. STD.***** 6-98-160-,764-25-8AM
4.4	J-1	6-PR-1103-6 ELBOW TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	025100 025100 025100 025100	- X X X	- - - -	VT REVEALED ARC STRIKES AND GOUGES, CLEARED BY PSELG WITH CNF #73. NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE, *****CAL. STD.***** 6-98-160-,764-25-8AM
4.4	J-1	6-PR-1103-12 ELBOW TO FLANGE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	025700 025700 025700 025700	X X X X	- - - -	NO UT FROM THE UP- AND DOWN- STREAM SIDES DUE TO THE ELBOW CURVATURE AND FLANGE CONFIGU- RATION, *****CAL. STD.***** 6-98-160-,764-25-8AM

SALEM NUCLEAR GENERATING STATION UNIT-1
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PRESSURE RELIEF SYSTEM, LINE NO. 4-PR-1100 (SEE FIG. C-16)

ASME SECT. XI ITEM NO.	ASME SECT. XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N Q T R S E H E I O E C O M R	REMARKS
4.1	F	4-PR-1100-1 NOZZLE TO SAFE-END	VT	900-1/13	025900	X	NO UT FROM EITHER SIDE DUE TO THE NOZZLE AND SAFE-END CON- FIGURATION,
			PT	200-1/11	025900	X	
			UTDL	600-3/16	025900	X	
			UTDW	600-3/16	025900	X	
			UT45T	600-3/16	025900	X	

*****CAL. STD.*****
4-93-160-553-28-8AM

SALEM NUCLEAR GENERATING STATION UNIT-1
SUMMARY OF NONDESTRUCTIVE EXAMINATIONS
CLASS 1 COMPONENTS

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PRESSURIZING SYSTEM, LINE NO. 4-P8-1131 (SEE FIG. C-19, C-20 & C-21)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI NO./REV.	SUMMARY SHEET NUMBER	N I D O N O T R E S E H E I D E C O M P O N E N T S	REMARKS
4.1	E	4-P8-1131-29 SAFE-END TO NOZZLE	VT	900-1/13	033500	X	VT REVEALED LINEAR INDICATION, CLEARED BY PSENG WITH CNF #58
			PT	800-1/11	033500	X	NO UT FROM EITHER SIDE DUE TO SAFE-END AND NOZZLE CONFIGURA- TION.
			UTDL	600-3/16	033600	X	*****CAL. STD.*****
			UTOW	600-3/16	033500	X	*SS-160-,553-28-SAM

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PRESSURIZING SYSTEM, LINE NO. 4-PS-1111 (SEE FIG. C-22)

N I O
D N O T
R O E M
E I O E
C O M R

REMARKS

ASME ASME
SECT XI SECT XI
ITEM NO CATQY WELD NUMBER AND/OR
EXAMINATION AREA IDENTIFICATION

EXAM. PROCEDURE SHEET
METHOD NO./REV. NUMBER

4,4 J-1 4-PS-1111-23
VALVE TO TEE

VT 900-1/13 036500
UTGW 600-3/16 036500
UT45T 600-3/16 036500

X = . .
X = . .
X = . .

NO UT FROM EITHER SIDE DUE TO
THE VALVE AND TEE CONFIGURA-
TION.
*****CAL, STD,*****
4-89-160, 563-28-0AM

SALEM NUCLEAR GENERATING STATION UNIT-1
SUMMARY OF NONDESTRUCTIVE EXAMINATIONS
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REACTOR COOLANT SYSTEM, LINE NO. 31-RC-1140 (SEE FIG. C-23)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE SHEET NO./REV.	SUMMARY NUMBER	N I O N G T R 9 E H E I O E C O M R	REMARKS
4.1	F	31-RC-1140-2 NOZZLE TO ELBOW	VT PT UTOL UTOW UT45T	900-1/13 200-1/11 600-3/16 600-3/16 600-3/16	036600 036600 036600 036600 036600	X - - - X - - - X - - - X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE NOZZLE CONFIGURATION. *****CAL. STD.***** 2,312-85-37-5AM
4.4	J-1	31-RC-1140-4LD-1 LONGITUDINAL	VT	900-1/13	037600	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-4LD-0 LONGITUDINAL	VT	900-1/13	037700	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-5LU-1 LONGITUDINAL	VT	900-1/13	038200	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-5LU-0 LONGITUDINAL	VT	900-1/13	038300	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-6LD-1 LONGITUDINAL	VT	900-1/13	038800	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-6LD-0 LONGITUDINAL	VT	900-1/13	038900	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-7LU-1 LONGITUDINAL	VT	900-1/13	039000	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-7LU-0 LONGITUDINAL	VT	900-1/13	039100	X - - -	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1140-7 ELBOW TO PUMP	VT UTOW UT45T	900-1/13 600-3/16 600-3/16	039200 039200 039200	X - - - X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE PUMP CONFIGURATION. *****CAL. STD.***** 2,312-85-37-5AM

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SUMMARY OF NONDESTRUCTIVE EXAMINATIONS
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REACTOR COOLANT SYSTEM, LINE NO. 31-RC-1130 (SEE FIG. C-24)

ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N Q T R S E H E I O E C O M R	REMARKS
4.1	E	31-RC-1130-2 NOZZLE TO ELBOW	VT PT UTOW UT45T	900-1/13 800-1/11 600-3/16 600-3/16	039300 039300 039300 039300	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE NOZZLE CONFIGURATION. *****CAL, STD,***** 2,312-88-37-8AM
4.4	J-1	31-RC-1130-4LD-1 LONGITUDINAL	VT	900-1/13	040300	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-4LD-0 LONGITUDINAL	VT	900-1/13	040400	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-5LU-1 LONGITUDINAL	VT	900-1/13	040900	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-5LU-0 LONGITUDINAL	VT	900-1/13	041000	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-6LD-1 LONGITUDINAL	VT	900-1/13	041500	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-6LD-0 LONGITUDINAL	VT	900-1/13	041600	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-7LU-1 LONGITUDINAL	VT	900-1/13	041700	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-7LU-0 LONGITUDINAL	VT	900-1/13	041800	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING.
4.4	J-1	31-RC-1130-7 ELBOW TO PUMP	VT UTOW UT45T	900-1/13 600-3/16 600-3/16	041900 041900 041900	X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE PUMP CONFIGURATION. *****CAL, STD,***** 2,312-88-37-8AM

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REACTOR COOLANT SYSTEM, LINE NO. 31-RC-1120 (SEE FIG. C-25)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G T B O E H E I O E C O M R	REMARKS
4.1	F	31-RC-1120-2 NOZZLE TO ELBOW	VT	900-1/13	042000	X . . .	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE NOZZLE CONFIGURATION,
			PT	200-1/11	042000	X . . .	
			UTOL	600-3/16	042000	X . . .	
			UTOW	600-3/16	042000	X . . .	
			UT45T	600-3/16	042000	X . . .	
							*****CAL. STD,***** 2,312-55-37-9AM
4.4	J-1	31-RC-1120-4LD-1 LONGITUDINAL	VT	900-1/13	043000	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-4LD-0 LONGITUDINAL	VT	900-1/13	043100	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-5LU-1 LONGITUDINAL	VT	900-1/13	043600	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-5LU-0 LONGITUDINAL	VT	900-1/13	043200	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-6LD-1 LONGITUDINAL	VT	900-1/13	044200	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-6LD-0 LONGITUDINAL	VT	900-1/13	044300	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-7LU-1 LONGITUDINAL	VT	900-1/13	044400	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-7LU-0 LONGITUDINAL	VT	900-1/13	044500	X . . .	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1120-7 ELBOW TO PUMP	VT	900-1/13	044600	X . . .	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE PUMP CONFIGURATION,
			UTOW	600-3/16	044600	X . . .	
			UT45T	600-3/16	044600	X . . .	
							*****CAL. STD,***** 2,312-55-37-9AM

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REACTOR COOLANT SYSTEM, LINE NO. 31-RC-1110 (SEE FIG. C-26)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	BHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N G T R S E H C I O E C O M R	REMARKS
4.1	F	31-RC-1110-2 NOZZLE TO ELBOW	VT PT UTOW UTAST	900-1/13 200-1/11 600-3/16 600-3/16	044700 044700 044700 044700	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE NOZZLE CONFIGURATION, *****CAL, STD,***** 2,312-83-37-9AM
4.4	J-1	31-RC-1110-4LD-I LONGITUDINAL	VT	900-1/13	045700	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-4LD-O LONGITUDINAL	VT	900-1/13	045800	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-5LU-I LONGITUDINAL	VT	900-1/13	046300	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-5LU-O LONGITUDINAL	VT	900-1/13	046400	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-6LD-I LONGITUDINAL	VT	900-1/13	046900	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-6LD-O LONGITUDINAL	VT	900-1/13	047000	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-7LU-I LONGITUDINAL	VT	900-1/13	047100	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-7LU-O LONGITUDINAL	VT	900-1/13	047200	X	NO UT DUE TO THE ACOUSTIC PROPERTIES OF THE CASTING,
4.4	J-1	31-RC-1110-7 ELBOW TO PUMP	VT UTOW UTAST	900-1/13 600-3/16 600-3/16	047300 047300 047300	X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE PUMP CONFIGURATION, *****CAL, STD,***** 2,312-83-37-9AM

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REACTOR COOLANT SYSTEM, LINE NO. 29-RC-1140 (SEE FIG. C-27)

ASME SECT. XI ITEM NO.	ASME SECT. XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE SHEET NO./REV.	SUMMARY NUMBER	N I O N O T R S E H E I O E C O M R	REMARKS
4.1	F	29-RC-1140-5 ELBOW TO NOZZLE	VT	900-1/13	048900	- - - X	VT REVEALED ARC STRIKE, CLEARED BY PSEAD WITH CNF #28, NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE NOZZLE CONFIGURATION, *****CAL, STD,***** 2,312-33-27-SAM
			PT	200-1/11	048900	X - - -	
			UTGW	600-3/16	048900	X - - -	
			UT45T	600-3/16	048900	X - - -	

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REACTOR COOLANT SYSTEM, LINE NO. 29-RC-1130 (SEE FIG. C-28)

ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE SHEET NO./REV.	SUMMARY NUMBER	REMARKS
4.1	F	29-RC-1130-5 ELBOW TO NOZZLE	VT	900-1/13	050900	PT REVEALED LINEAR INDICATION CLEARED BY PSE&O WITH CNF #144
			PT	200-1/11	050900	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE NOZZLE CONFIGURATION, *****CAL STD***** 2.312-88-37-8AM
			UTGW	600-3/16	050900	
			UTYST	600-3/16	050900	

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REACTOR COOLANT SYSTEM, LINE NO. 29-RC-1120 (SEE FIG. C-29)

ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N O N D E S T R U C T I V E E X A M I N A T I O N S	Q U A N T I T Y	REMARKS
4.1	F	29-RC-1120-5 ELBOW TO NOZZLE	VT PT UTOW UT45T	900-1/13 800-1/11 600-3/16 600-3/16	058600 058600 058600 058600	X X X X	- - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW ACOUSTIC PROPERTIES AND THE NOZZLE CONFIGURATION, *****CAL. STD.***** 8.12-88-37-8AM

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REACTOR COOLANT SYSTEM, LINE NO. 29-RC-1110 (SEE FIG. C-30)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE SHEET NO./REV, NUMBER	SUMMARY R. S. H E. I. O. E C. G. M. R	REMARKS
NONE	NONE	29-RC-1110-28C-8 1 IN. BRANCH CONNECTION	VT PT	900-1/13 083400 200-1/11 083400	X - - - - - - X	EXAMINED AT PSE&Q REQUEST, PT REVEALED ROUND INDICATION, CLEARED BY PSE&Q WITH CNF #182

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REACTOR COOLANT SYSTEM, LINE NO. 3-RC-1143 (SEE FIG. C-35)

ASME SECT XI ITEM NO	ASME SECT XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	NO O N G T R S E H E I O E C O M R	REMARKS
4.1	J-1	3-RC-1143-10 VALVE TO BRANCH CONNECTION	VT	900-1/13	061900	X - - -	NO UT FROM EITHER SIDE DUE TO
			UTOL	600-3/16	061900	X - - -	THE VALVE AND BRANCH CONNEC-
			UTOW	600-3/16	061900	X - - -	TION CONFIGURATION.
			UTYST	600-3/16	061900	X - - -	
							*****CAL. STD.*****
							3-89-160-451-30-9AM

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REACTOR COOLANT SYSTEM, LINE NO. 3-RC-1133 (SEE FIG. C-36)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI NO./REV.	SUMMARY PROCEDURE SHEET NUMBER	REMARKS
9,9	J-1	3-RC-1133-18 VALVE TO BRANCH CONNECTION	VT UTOM UT45T	900-12/13 600-3/16 600-3/16	063800 063800 063800	NO UT FROM EITHER SIDE DUE TO THE VALVE AND BRANCH CONNEC- TION CONFIGURATION. *****CAL. 310***** 3-89-160-451-30-8AM

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REACTOR COOLANT SYSTEM, LINE NO. 3-RC-1123 (SEE FIG. C-37)

ASME SECT XI ITEM NO	ASME SECT XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N G T R S E H E I O E C G M R	REMARKS
4.4	J-1	3-RC-1123-18 VALVE TO BRANCH CONNECTION	VT UTOW UT45T	900-1/13 600-3/16 600-3/16	065700 065700 065700	X - - - X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE VALVE AND BRANCH CONNEC- TION CONFIGURATION. *****CAL. 870***** 3-83-160-451-30-8AM

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REACTOR COOLANT SYSTEM, LINE NO. 3-RC-1113 (SEE FIG. C-38)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRT PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N S	REMARKS
4.4	J-1	3-RC-1113-18 VALVE TO BRANCH CONNECTION	VT UTOH UT45T	900-1/13 600-3/16 600-3/16	067600 067600 067600	X X X	NO UT FROM EITHER SIDE DUE TO THE VALVE AND BRANCH CONNEC- TION CONFIGURATION, *****CAL. STD.***** 3-88-160, 451-30-SAM

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REACTOR COOLANT SYSTEM, LINE NO. 2-RC-1141 (SEE FIG. C-47)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N O N D E S T R U C T I V E E X A M I N A T I O N S C O M P L E T E D	REMARKS
4.4	J-1	2-RC-1141-1 TEE TO PIPE	VT UT55T	900-1/13 800-36/8	021800 021800	X = - X = -	NO UT FROM EITHER SIDE DUE TO THE TEE CONFIGURATION AND TO THE CLOSENESS OF WELD 2-RC- 1141-2. *****CAL. STD.***** 2-89-160-,330-39-SAM

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ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G T R O E H E I O E C Q M R	REMARKS
4,4	J-1	10-SJ-1141-14 VALVE TO TEE	VT	900-1/13	046700	X	VT REVEALED ARC STRIKES.
			UTOL	600-3/16	046700	X	CLEARED BY PSE&O WITH CNF #1
			UTOW	600-3/16	046700	X	NO UT FROM EITHER SIDE DUE TO
			UT45T	600-3/16	046700	X	THE VALVE AND TEE CONFIGURA-
							TION.
							*****CAL, STD,*****
							10-88-160-1,114-28-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 10-SJ-1131 (SEE FIG. C-55)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N G T R S E H E I O E C O M R	REMARKS
4.4	J-1	10-SJ-1131-14 TEE TO VALVE	VT	900-1/13	098900	X . . .	NO UT FROM EITHER SIDE DUE TO THE TEE AND THE VALVE CONFIGU- RATION,
			UTOL	600-3/16	098900	X . . .	
			UTOH	600-3/16	098900	X . . .	
			UT45T	600-3/16	098900	X . . .	

*****CAL. STD.*****
10-SS-160-1,119-22-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 10-8J-1121 (SEE FIG. C-56)

ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI NO./REV.	SUMMARY PROCEDURE SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N C O M P O N E N T S	REMARKS
4.4	J-1	10-8J-1121-15 VALVE TO TEE	VT	900-1/13	101000	X	NO UT FROM EITHER SIDE DUE TO THE VALVE AND THE TEE CONFIGURATION.
			UTOH	600-3/16	101000	X	
			UT457	600-3/16	101000	X	*****CAL. STD.***** 10-88-160-1,119-22-SAM

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SAFETY INJECTION SYSTEM, LINE NO. 10-SJ-1111 (SEE FIG. C-57)

ASME SECT XI ITEM NO.	ASME SECT XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	BWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O D N O T R S E H E I O E C O M R	REMARKS
9.9	J-1	10-SJ-1111-15 VALVE TO TEE	VT UTOW UT45T	900-1/13 600-3/16 600-3/16	103400 103400 103400	X X X	NO UT FROM EITHER SIDE DUE TO THE VALVE AND THE TEE CONFIG- URATION, *****CAL. STD.***** 10-89-160-1,119-22-SAM

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SAFETY INJECTION SYSTEM, LINE NO. 8-SJ-1162 (SEE FIG. C-58 & C-59)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	BWRI PROCEDURE SHEET NO./REV.	SUMMARY E I O E NUMBER	REMARKS
4.9	K-1	8-SJ-1162-3PS-1 PIPE TO PENETRATION	VT	900-1/13	104700 X = . .	NO UT FROM EITHER SIDE DUE TO WELD AREA CONFIGURATION, NO UT ON THE WELD DUE TO WELD CROWN CONFIGURATION.
4.9	K-1	8-SJ-1162-3PS-2 PENETRATION TO PIPE	VT UTOW	900-1/13 600-3/16	104800 X = . . 104800 X = . .	NO UT FROM EITHER SIDE DUE TO WELD AREA CONFIGURATION, NO UTYST ON THE WELD DUE TO WELD CROWN CONFIGURATION. *****CAL, STD,***** 8-89-XX, 860-23-SAM
4.4	J-1	8-SJ-1162-17 TEE TO CAP	VT UTOW UT457	900-1/13 600-3/16 600-3/16	106200 X = . . 106200 X = . . 106200 X = . .	NO UT FROM EITHER SIDE DUE TO THE TEE AND CAP CONFIGURATION, *****CAL, STD,***** 4-88-XX, 689-27-SAM
4.9	K-1	8-SJ-1162-30PS PIPE TO PENETRATION	VT	900-1/13	107700 X = . .	NO UT DUE TO PENETRATION AND WELD CONFIGURATION AND DUE TO THE WELD CROWN OF 8-SJ-1162-31

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SAFETY INJECTION SYSTEM, LINE NO. 8-8J-1152 (SEE FIG. C-60 & C-61)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE SHEET NO./REV.	SUMMARY SHEET NUMBER	N I O O N O T R S E H E I D E C G M R	REMARKS
4.9	K-1	8-8J-1152-1PL-1 PIPE LUG	VT UTOL UT45 UT45T	900-1/13 600-3/16 600-3/16 600-3/16	108500 108500 108500 108500	- - - X X - - - X - - - X - - -	VT REVEALED ARC STRIKE, CLEARED BY PSE60 WITH CNF #37 NO UT FROM THE DOWNSTREAM SIDE DUE TO WELDED HANGER BRACKET, NO UTOW DUE TO WELD CONFIGU- RATION, *****CAL. STD.***** 8-83-XX-,860-23-SAM
4.9	K-1	8-8J-1152-1PL-2 PIPE LUG	VT UTOL UT45 UT45T	900-1/13 600-3/16 600-3/16 600-3/16	108600 108600 108600 108600	- - - X X - - - X - - - X - - -	VT REVEALED GOUGE AND ARC STRIKE, CLEARED BY PSE60 WITH CNF #49 NO UT FROM THE DOWNSTREAM SIDE DUE TO WELDED HANGER BRACKET, NO UTOW DUE TO WELD AREA CON- FIGURATION, *****CAL. STD.***** 8-83-XX-,860-23-SAM
4.9	K-1	8-8J-1152-1PL-3 PIPE LUG	VT UTOL UT45 UT45T	900-1/13 600-3/16 600-3/16 600-3/16	108700 108700 108700 108700	X - - - X - - - X - - - X - - -	NO UT FROM THE DOWNSTREAM SIDE DUE TO WELDED HANGER BRACKET, NO UTOW DUE TO WELD AREA CON- FIGURATION, *****CAL. STD.***** 8-83-XX-,860-23-SAM
4.9	K-1	8-8J-1152-1PL-4 PIPE LUG	VT UTOL UT45 UT45T	900-1/13 600-3/16 600-3/16 600-3/16	108800 108800 108800 108800	X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO WELDED HANGER BRACKET, NO UTOW DUE TO WELD AREA CON- FIGURATION, *****CAL. STD.***** 8-83-XX-,860-23-SAM
4.9	K-1	8-8J-1152-1PL-5 PIPE LUG	VT UTOL UT45 UT45T	900-1/13 600-3/16 600-3/16 600-3/16	108900 108900 108900 108900	- - - X X - - - X - - - X - - -	VT REVEALED ARC STRIKE, CLEARED BY PSE60 WITH CNF #46 NO UT FROM THE UPSTREAM SIDE DUE TO WELDED HANGER BRACKET, NO UTOW DUE TO WELD AREA CON- FIGURATION, *****CAL. STD.***** 8-83-XX-,860-23-SAM

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SAFETY INJECTION SYSTEM, LINE NO. 8-SJ-1152 (SEE FIG. C-60 & C-61)

(CONTD)

ASME SECT XI ITEM NO	ASME SECT XI CATOY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE SHEET NO./REV.	SUMMARY SHEET NUMBER	N I O M O T R S E H E I O E C G H R	REMARKS
4.9	K-1	8-SJ-1152-1PL-6 PIPE LUG	VT	900-1/13	109000	X - - -	NO UT FROM UPSTREAM SIDE DUE DUE TO WELDED HANGER BRACKET.
			UTDL	600-3/16	109000	X - - -	NO UTOW DUE TO WELD AREA CON-
			UT45	600-3/16	109000	X - - -	FIGURATION.
			UT45T	600-3/16	109000	X - - -	*****CAL, STD,***** 8-89-XX-,860-23-8AM
4.9	K-1	8-SJ-1152-4PS-1 PIPE TO PENETRATION	VT	900-1/13	109600	- - - X	VT REVEALED ARC STRIKES, CLEARED BY PSE60 WITH CNF #41. NO UT DUE TO WELD AREA CONFIGURATION.
4.9	K-1	8-SJ-1152-4PS-2 PENETRATION TO PIPE	VT	900-1/13	109700	X - - -	NO UT FROM EITHER SIDE DUE TO PENETRATION AND PIPE CONFIGU-
			UTOW	600-3/16	109700	X - - -	RATIONS.
							*****CAL, STD,***** 8-89-XX-,860-23-8AM
4.9	K-1	8-SJ-1152-16PS PENETRATION TO PIPE	VT	900-1/13	111000	X - - -	NO UT45 OR UT45T FROM THE PIPE DUE TO LACK OF ADEQUATE SUR-
			UTOW	600-3/16	111000	X - - -	FACE CAUSED BY THE ADJACENT WELD CROWN. NO UT45T ON THE WELD DUE TO WELD CONFIGURATION
							*****CAL, STD,***** 8-89-XX-,860-23-8AM

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SAFETY INJECTION SYSTEM, LINE NO. B-SJ-1145 (SEE FIG. C-62)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	NI OR R S E I O E C O M R	REMARKS
4.4	J-1	B-SJ-1145-1 TEE TO VALVE	VT UTOW UT45T	900-1/13 600-3/16 600-3/16	111600 111609 111600	X = - - X = - - X = - -	NO UT FROM EITHER SIDE DUE TO THE TEE AND VALVE CONFIGURA- TION. *****CAL. STD.***** B-85-XX-86D-23-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 8-8J-1135 (SEE FIG. C-63)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI NO./REV.	SUMMARY PROCEDURE SHEET NUMBER	NI ON OT SE EH EI OE CH MR	REMARKS
4.4	J-1	8-8J-1135-1 REDUCER TO VALVE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	112800 112800 112800 112800	- - - X X - - - X - - - X - - -	VT REVEALED ARC STRIKE, CLEARED BY PSEAG WITH CNF #69 NO UT FROM EITHER SIDE DUE TO THE REDUCER AND VALVE CONFIGU- RATION. *****CAL. STD.***** 8-8S-XX-860-23-8AM
4.9	K-1	8-8J-1135-2P8-1 PIPE SUPPORT	VT	900-1/13	113000	X - - -	NO UT DUE TO WELD AREA CONFIG- URATION.
4.9	K-1	8-8J-1135-2P8-2 PIPE SUPPORT	VT	900-1/13	113100	X - - -	NO UT DUE TO WELD AREA CONFIG- URATION.

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-1142 (SEE FIG. C-64)

ASME SECT XI ITEM NO	ASME SECT XI CATOY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N O T R S E H E I D E C O M R	REMARKS
4.4	J-1	6-SJ-1142-1 REDUCER TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	113800 113800 113800 113800	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE AND THE REDUCER CONFIGURATION. *****CAL. STD.***** 6-89-160-.764-25-8AM
4.4	J-1	6-SJ-1142-2 ELBOW TO VALVE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	113900 113900 113900 113900	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE AND THE VALVE CONFIGURATION. *****CAL. STD.***** 6-89-160-.764-25-8AM
4.4	J-1	6-SJ-1142-3 ELBOW TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	114600 114600 114600 114600	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE. *****CAL. STD.***** 6-89-160-.764-25-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-1141 (SEE FIG. C-65)

ASME SECT XI ITEM NO	ASME SECT XI CATOY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O D N Q T R S E H E I Q F C O M R	REMARKS
4.4	J-1	6-SJ-1141-1 REDUCER TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	115300 115300 115300 115300	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE AND THE REDUCER CONFIGURATION. *****CAL. STD,***** 6-SS-160-,764-25-8AM
4.4	J-1	6-SJ-1141-2 ELBOW TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	115400 115400 115400 115400	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE. *****CAL. STD,***** 6-SS-160-,764-25-8AM
4.4	J-1	6-SJ-1141-13 ELBOW TO PIPE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	116500 116500 116500 116500	X X X X	NO UT FROM THE UPSTREAM SIDE DUE TO THE ELBOW CURVATURE. NO UT FROM THE DOWNSTREAM SIDE DUE TO THE WELDED SUPPORT. *****CAL. STD,***** 6-SS-160-,764-25-8AM
4.4	J-1	6-SJ-1141-15 ELBOW TO VALVE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	116700 116700 116700 116700	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE AND THE VALVE CONFIGURATION. *****CAL. STD,***** 6-SS-160-,764-25-8AM
4.4	J-1	6-SJ-1141-18 ELBOW TO BRANCH CONNECTION	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	117000 117000 117000 117000	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE AND THE BRANCH CONNECTION CONFIGURA- TION. *****CAL. STD,***** 6-SS-160-,764-25-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 6-8J-1132 (SEE FIG. C-66)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G T R S E H E I Q E C O M R	REMARKS
4.4	J-1	6-8J-1132-1 REDUCER TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	117100 117100 117100 117100	X X X X	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE AND THE REDUCER CONFIGURATION, *****CAL, STD,***** 6-83-160-.764-25-8AM
4.4	J-1	6-8J-1132-2 ELBOW TO VALVE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	117200 117200 117200 117200	X X X X	NO UT FROM THE UPSTREAM SIDE DUE TO THE ELBOW CURVATURE, NO UT FROM THE DOWNSTREAM SIDE DUE TO THE VALVE CONFIGURATION *****CAL, STD,***** 6-83-160-.764-25-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-1131 (SEE FIG. C-67)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI NO./REV.	SUMMARY SHEET NUMBER	N I O O N G T R S E H E I O E C O M R	REMARKS
4.4	K-1	6-SJ-1131-6PS-1 PIPE SUPPORT	VT	900-1/13	119400	X - - -	NO UT DUE TO OUTER RADIUS OF THE ELBOW, NO UTOW DUE TO THE WELD CROWN CONFIGURATION.
4.4	K-1	6-SJ-1131-6PS-2 PIPE SUPPORT	VT	900-1/13	119450	X - - -	NO UT DUE TO OUTER RADIUS OF THE ELBOW, NO UTOW DUE TO THE WELD CROWN CONFIGURATION.
4.4	J-1	6-SJ-1131-13 ELBOW TO ELBOW	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	120100 120100 120100 120100	X - - - X - - - X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE.
							*****CAL. STD,***** 6-SJ-160-,764-25-8AM
4.4	J-1	6-SJ-1131-18 ELBOW TO VALVE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	120600 120600 120600 120600	X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO THE ELBOW CURVATURE, NO UT FROM THE DOWNSTREAM SIDE DUE TO VALVE CONFIGURATION.
							*****CAL. STD,***** 6-SJ-160-,764-25-8AM
4.4	J-1	6-SJ-1131-21 ELBOW TO BRANCH CONNECTION	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	120900 120900 120900 120900	X - - - X - - - X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW AND BRANCH CONNEC- TION CONFIGURATION.
							*****CAL. STD,***** 6-SJ-160-,764-25-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-1122 (SEE FIG. C-68)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N O T R E H E I D E C G M R	REMARKS
4.4	J-1	6-SJ-1122-1 REDUCER TO VALVE	VT UTOL UTOW UTYST	900-1/13 600-3/16 600-3/16 600-3/16	121000 121000 121000 121000	X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO REDUCER CONFIGURATION. NO UT FROM THE DOWNSTREAM SIDE DUE TO VALVE CONFIGURATION. *****CAL. STD.***** 6-88-160-,764-25-8AM

4.4	J-1	6-SJ-1122-10 ELBOW TO ELBOW	VT UTOL UTOW UTYST	900-1/13 600-3/16 600-3/16 600-3/16	121900 121900 121900 121900	X - - - X - - - X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE ELBOW CURVATURE. *****CAL. STD.***** 6-88-160-,764-25-8AM
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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-1121 (SEE FIG. C-69)

ASME SECT XI ITEM NO.	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N O T R S E H E I O F C Q M R	REMARKS
4.4	J-1	6-SJ-1121-1 REDUCER TO ELBOW	VT UTOL UTOW UT4ST	900-1/13 600-3/16 600-3/16 600-3/16	122200 122200 122200 122200	X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO THE REDUCER CONFIGURA- TION. NO UT FROM THE DOWN- STREAM SIDE DUE TO THE ELBOW CURVATURE. *****CAL. STD.***** 6-SS-160-764-25-SAM
4.4	J-1	6-SJ-1121-2 ELBOW TO VALVE	VT UTOL UTOW UT4ST	900-1/13 600-3/16 600-3/16 600-3/16	122300 122300 122300 122300	X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO THE ELBOW CURVATURE, NO UT FROM THE DOWNSTREAM SIDE DUE TO THE VALVE CONFIGURATION *****CAL. STD.***** 6-SS-160-764-25-SAM
4.4	J-1	6-SJ-1121-3 ELBOW TO BRANCH CONNECTION	VT UTOL UTOW UT4ST	900-1/13 600-3/16 600-3/16 600-3/16	122600 122600 122600 122600	X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO THE ELBOW CURVATURE, NO UT FROM THE DOWNSTREAM SIDE DUE TO THE BRANCH CONNECTION CONFIGURATION. *****CAL. STD.***** 6-SS-160-764-25-SAM

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-1112 (SEE FIG. C-70)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI NO./REV.	SUMMARY SHEET NUMBER	NON DESTRUCTIVE EXAMINATION REMARKS
4.4	Jel	6-SJ-1112-1 REDUCER TO VALVE	VT UTGW UTAST	900-1/13 600-3/16 600-3/16	122700 122700 122700	X X X
						NO UT FROM EITHER SIDE DUE TO THE REDUCER AND VALVE CONFIGU- RATION. *****CAL. STD.***** 6-83-160, 764-25-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-1111 (SEE FIG. C-71)

ASME SECT XI ITEM NO.	ASME SECT XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N C O M P O N E N T S C O M P O N E N T S	REMARKS
4.4	J-1	6-SJ-1111-1 REDUCER TO VALVE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	124100 124100 124100 124100	X X X X	NO UT FROM EITHER SIDE DUE TO THE REDUCER AND VALVE CONFIGU- RATION.

*****CAL. STD.*****
6-89-1607, 764-25-8AM.

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SAFETY INJECTION SYSTEM, LINE NO. 4-SJ-1199 (SEE FIG. C-73)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N R E C O M M E N T S	O N G I N I T I A L E X A M I N A T I O N	REMARKS
4.4	J-1	4-SJ-1199-15 PIPE TO ELBOW	VT	900-1/13	126300	X	-	LIMITED UT EXAMINATION DUE TO
			UTOL	600-3/16	126300	X	-	WELDED PIPE SUPPORT,
			UT45	600-3/16	126300	X	-	
			UT45T	600-3/16	126300	X	-	
			UT60	600-3/16	126300	-	X	

*****CAL. STD.*****
4-93-160, 593-28-0AM

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SAFETY INJECTION SYSTEM, LINE NO. 4-SJ-1182 (SEE FIG. C-74)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRT NO./REV.	SUMMARY SHEET NUMBER	NI O N I T E N C E N T R E	REMARKS
4.4	J-1	4-SJ-1182-29 TEE TO REDUCER	VT	900-1/13	130700	- - - X	VT REVEALED ARC STRIKE, CLEARED BY PSE&G WITH CNF #55, NO UT FROM EITHER SIDE DUE TO THE TEE AND REDUCER CONFIGURA- TION.
			UTOW	600-3/16	130700	X - - -	
			UT45T	600-3/16	130700	X - - -	*****CAL STD***** 4-85-160,553-88-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 4-SJ-1172 (SEE FIG. C-75)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N O T R E H E I O E C O M R	REMARKS
4.9	K-1	4-SJ-1172-19P8-1 PIPE TO PENETRATION	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	132700 132700 132700 132700	X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO WELD 4-SJ-1172-19. NO UT FROM THE DOWNSTREAM SIDE DUE TO THE PENETRATION CONFIG- URATION. *****CAL. STD.***** 4-83-XX-689-27-8AM
4.9	K-1	4-SJ-1172-19P8-2 PENETRATION TO PIPE	VT UTOL UT45 UT45T UT60	900-1/13 600-3/16 600-3/16 600-3/16 600-3/16	132800 132800 132800 132800 132800	X - - - X - - - X - - - X - - - X - - -	NO UT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION CONFIG- URATION. NO UTOW DUE TO THE WELD CONFIGURATION. *****CAL. STD.***** 4-83-XX-689-27-8AM
4.4	J-1	4-SJ-1172-27 TEE TO CAP	VT	900-1/13	133700	X - - -	NO UT DUE TO TEE, CAP, AND WELD CONFIGURATION.
4.4	J-1	4-SJ-1172-28 TEE TO REDUCER	VT UTOW	900-1/13 600-3/16	133800 133800	X - - - X - - -	NO UT FROM EITHER SIDE DUE TO THE TEE AND REDUCER CONFIGURA- TION. *****CAL. STD.***** 4-83-160-553-28-8AM

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SAFETY INJECTION SYSTEM, LINE NO. 3-0J-1192 (SEE FIG. C-72)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N O T R E C H E I O F C O M P O N E N T S	REMARKS
4.4	J-1	3-8J-1192-3 REDUCING ELBOW TO TEE	VT UTOL UTOW UT45T	900-1/13 600-3/16 600-3/16 600-3/16	134100 134100 134100 134100	X X X X	NO UT FROM EITHER SIDE DUE TO THE TEE AND ELBOW CONFIGURA- TION. *****CAL, STD,***** 3-88-160, 451-30-8AM
4.9	K-1	3-8J-1192-9PS-2 PENETRATION TO PIPE	VT UTOL UT45 UT45T	900-1/13 600-3/16 600-3/16 600-3/16	135000 135000 135000 135000	X X X X	NO UT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION CONFIG- URATION, NO UTOW DUE TO THE WELD CONFIGURATION, *****CAL, STD,***** 3-88-XX, 600-43-8AM

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REACTOR COOLANT PUMP NO. 11 (SEE FIG. C-4)

ASME SECT XI ITEM NO.	ASME SECT XI CATEGORY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI NO./REV.	SUMMARY PROCEDURE SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N S C O M P O N E N T S	REMARKS
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BOLTING

5.4	Q-1	11-PMP-BOLTS 1-24	VT UT60	900-1/13 600-18/R	190800 190800	X = . . . X = . . .	VT AND UT PERFORMED WITH BOLTS IN PLACE. NO UT ON BOLTS 1, 11, AND 19 DUE TO INACCESSI- BILITY OF CENTER HOLE. *****CAL. STD.***** 4.5-728-8-03-70-8AM
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LIGAMENTS BETWEEN THREADED STUD HOLES

5.4	Q-1	11-PMP-LIG 1-24 LIGAMENTS	VT	900-1/13	190900	X = . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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INTEGRALLY WELDED VESSEL SUPPORTS

5.6	K-1	11-PMP-3LG LUG	VT	900-1/13	191800	X = . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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REACTOR COOLANT PUMP NO. 12 (SEE FIG. C-5)

N I O
O N O T
R S E H
E I O E
C O M R

ASME SECT XI ITEM NO	ASME SECT XI CATOV	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRT. PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	REMARKS
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BOLTING

5.4	G-1	12-PMP-BOLTS 1-24	VT	900-1/13	191600	X = . .	VT AND UT PERFORMED WITH BOLTS IN PLACE, NO UT ON BOLTS 1, 11, AND 16 DUE TO INACCESSI- BILITY OF CENTER HOLE.
			UT60	600-18/8	191600	X = . .	
*****CAL. STD.*****							
4.5-.75-8-C8-70-9AM							

LIGAMENTS BETWEEN THREADED STUD HOLES

5.4	G-1	12-PMP-LIG 1-24 LIGAMENTS	VT	900-1/13	191700	X = . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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INTEGRALLY WELDED VESSEL SUPPORTS

5.5	K-1	12-PMP-1LG LUG	VT	900-1/13	191800	X = . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
5.5	K-1	12-PMP-2LG LUG	VT	900-1/13	191900	. . . X	VT REVEALED ARC STRIKE, CLEARED BY P8E4Q WITH CNF #228 UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
5.5	K-1	12-PMP-3LG LUG	VT	900-1/13	192000	X = . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.

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REACTOR COOLANT PUMP NO. 13 (SEE FIG. C-6)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N O T R E C O M M E N D E D	REMARKS
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BOLTING

5.4	G-1	13-PMP-BOLTS 1-24	VT	900-1/13	192400	X . . .	VT AND UT PERFORMED WITH BOLTS IN PLACE. NO UT ON BOLTS 1, 2, AND 15 DUE TO INACCESSIBILITY OF CENTER HOLE.
			UT60	600-18/8	192400	X . . .	

*****CAL. STD.*****
4,57,79-8-C8-70-8AM

LIGAMENTS BETWEEN THREADED STUD HOLES

5.4	G-1	13-PMP-LIG 1-24 LIGAMENTS	VT	900-1/13	192600	X . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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INTEGRALLY WELDED VESSEL SUPPORTS

5.6	K-1	13-PMP-1LG LUG	VT	900-1/13	192600	X . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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5.6	K-1	13-PMP-2LG LUG	VT	900-1/13	192700	X . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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5.6	K-1	13-PMP-3LG LUG	VT	900-1/13	192800	X . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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PUMP MOTOR FLYWHEEL

NONE	NONE	13-PMP-FLW PUMP MOTOR FLYWHEEL	VT	900-1/13	192900	X . . .	EXAMINATIONS PERFORMED TO SATISFY REQUIREMENTS OF REGULATORY GUIDE 1.14.
			PT	200-1/11	192900	X . . .	
			UTOL	600-6/6	192900	X . . .	
			UT45	600-6/6	192900	X . . .	

*****CAL. STD.*****
13-PMP-FLW-TOP

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CHEM AND VOL CONTROL SYSTEM, LINE NO. 8-CV-2101 (SEE FIG. D-6, D-7 & D-8)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G T B S E H C I D E C O M R	REMARKS
C2.1	C-F	8-CV-2101-2 PIPE TO TEE	UTOL UT55	800-36/5 800-36/5	220586 220586	X X	NO UT FROM TWELVE INCHES TO SEVENTEEN INCHES DUE TO THE PERMANENT PIPE HANGER. *****CAL, STD,***** 8-38-10-330-14-8AM 8-38-10-140-24-8AM
C2.1	C-F	8-CV-2101-7 ELBOW TO PIPE	SEE RMKS ==		220594	X	THIS WELD IS BURIED IN THE WALL AND IS INACCESSIBLE,
C2.1	C-F	8-CV-2101-26 PIPE TO ELBOW	SEE RMKS ==		220632	X	THIS WELD IS BETWEEN WALLS AND IS INACCESSIBLE.
C2.1	C-F	8-CV-2101-27 ELBOW TO PIPE	SEE RMKS ==		220634	X	THIS WELD IS BETWEEN WALLS AND IS INACCESSIBLE.
C2.1	C-F	8-CV-2101-39 ELBOW TO PIPE	SEE RMKS ==		220658	X	THIS WELD IS BURIED IN THE WALL AND IS INACCESSIBLE,

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REACTOR COOLANT PUMP NO. 14 (SEE FIG. C-7)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N R B E I D O E	REMARKS
LIGAMENTS BETWEEN THREADED STUD HOLES							

5.4	G-1	14-PMP-LIG 1-24 LIGAMENTS	VT	900-1/13	193300	X = . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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INTEGRALLY WELDED VESSEL SUPPORTS

5.6	K-1	14-PMP-1LG LUG	VT	900-1/13	193400	X = . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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5.6	K-1	14-PMP-2LG LUG	VT	900-1/13	193500	X = . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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5.6	K-1	14-PMP-3LG LUG	VT	900-1/13	193600	X = . . .	UT NOT FEASIBLE DUE TO THE ACOUSTIC PROPERTIES OF THE PUMP.
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STEAM GENERATOR FEED, LINE NO. 14-BF-2131 (SEE FIG. D-2)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI NO./REV.	SUMMARY SHEET NUMBER	N I O N G T R S E H E I D E C G M R	REMARKS
CP.1	C-0	14-BF-2131-4A PIPE TO PIPE	NOT REQ	--	211320	X - - -	A 20 INCH PIPE ENCAPSULATES THE 14 INCH PIPE AND MAKES THIS WELD INACCESSIBLE.
CP.1	C-0	14-BF-2131-6 PIPE TO ELBOW	NOT REQ	--	211330	X - - -	A 20 INCH PIPE ENCAPSULATES THE 14 INCH PIPE AND MAKES THIS WELD INACCESSIBLE.
CP.1	C-0	14-BF-2131-6 ELBOW TO PIPE	NOT REQ	--	211400	X - - -	A 20 INCH PIPE ENCAPSULATES THE 14 INCH PIPE AND MAKES THIS WELD INACCESSIBLE.
CP.1	C-0	14-BF-2131-7 PIPE TO ELBOW	NOT REQ	--	211450	X - - -	A 20 INCH PIPE ENCAPSULATES THE 14 INCH PIPE AND MAKES THIS WELD INACCESSIBLE.
CP.1	C-0	14-BF-2131-8 ELBOW TO PIPE	NOT REQ	--	211500	X - - -	A 20 INCH PIPE ENCAPSULATES THE 14 INCH PIPE AND MAKES THIS WELD INACCESSIBLE.
CP.1	C-0	14-BF-2131-9 ELBOW TO PIPE	NOT REQ	--	211550	X - - -	A 20 INCH PIPE ENCAPSULATES THE 14 INCH PIPE AND MAKES THIS WELD INACCESSIBLE.
CP.1	C-0	14-BF-2131-10 PIPE TO PIPE	NOT REQ	--	211600	X - - -	A 20 INCH PIPE ENCAPSULATES THE 14 INCH PIPE AND MAKES THIS WELD INACCESSIBLE.

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MAIN STEAM SYSTEM, LINE NO. 34-M8-2131 (SEE FIG. D-13)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	BWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G T R S E H E I D E C G M R	REMARKS
C2.1	C-0	34-M8-2131-1 PIPE TO PIPE	UTOW UT45T	600-3/16 600-3/16	222400 222400	X X	NO UT FROM THE UPSTREAM SIDE DUE TO WELDED COLLAR AND NO UT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE TAPE. *****CAL STD***** PL-1,8-CS-65-SAM

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MAIN STEAM SYSTEM, LINE NO. 34-M8-2111 (SEE FIG. D-15)

N 1 0
O N G T
R 8 E H
E I O E
C Q M R

ASME ASME
SECT XI SECT XI
ITEM NO CATGY WELD NUMBER AND/OR
EXAMINATION AREA IDENTIFICATION

EXAM. PROCEDURE SHEET
METHOD NO./REV. NUMBER

REMARKS

C2.1 C6G

34-M8-2111-1
PIPE TO PIPE

UTOW
UT45T

600-3/16 R25800 X - - -
600-3/16 R25800 X - - -

NO UT FROM EITHER SIDE DUE TO
WELDED COLLAR UPSTREAM AND
PIPE TAPER DOWNSTREAM.
*****CAL STD*****
PL-1, S-C8-65-8AM

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MAIN STEAM SYSTEM, LINE NO. 32-M8-2131 (SEE FIG. D-17)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N G T R S E H E I O F C O M R	REMARKS
C2.4	C-C	32-M8-2131-2PL-1 PIPE LUG	SEE RMKS --		229000	X . . .	THIS WELD IS ADJACENT TO THE PENETRATION AND IS INACCESSI- BLE,
C2.4	C-C	32-M8-2131-2PL-2 PIPE LUG	MT	300-1/7	229100	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO PIPE LUGS,
C2.4	C-C	32-M8-2131-2PL-3 PIPE LUG	MT	300-1/7	229200	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.4	C-C	32-M8-2131-2PL-4 PIPE LUG	MT	300-1/7	229300	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.4	C-C	32-M8-2131-2PL-5 PIPE LUG	MT	300-1/7	229305	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.4	C-C	32-M8-2131-2PL-6 PIPE LUG	MT	300-1/7	229310	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.4	C-C	32-M8-2131-2PL-7 PIPE LUG	MT	--	229315	X . . .	THIS LUG WELD IS INACCESSIBLE DUE TO THE PENETRATION,
C2.4	C-C	32-M8-2131-2PL-8 PIPE LUG	MT	300-1/7	229320	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.4	C-C	32-M8-2131-2PL-9 PIPE LUG	MT	300-1/7	229325	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.4	C-C	32-M8-2131-2PL-10 PIPE LUG	MT	300-1/7	229330	. . . X	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION, MT REVEALED A LINEAR INDICA- TION, CLEARED BY PSE&O WITH CNF #283,

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MAIN STEAM SYSTEM, LINE NO. 32-MS-2131 (SEE FIG. D-17)

(CONT'D)

ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N.I. O N O T R O G E N C O M P O N E N T S C O M P O N E N T S	REMARKS
C2.4	C-C	32-MS-2131-2PL-11 PIPE LUG	MT	300-1/7	824335	X - - -	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.4	C-C	32-MS-2131-2PL-12 PIPE LUG	MT	300-1/7	824340	X - - -	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
C2.3	C-C	32-MS-2131-4/6-MS-2131 6 IN. BRANCH CONNECTION	NOT REQ	--	824400	X - - -	THIS WELD IS ENCAPSULATED IN PIPE AND IS INACCESSIBLE,

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MAIN STEAM SYSTEM, LINE NO. 32-M8-2121 (SEE FIG. D-18)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G T R S E H E I O Z C O M R	REMARKS
CR.4	C-C	32-M8-2121-2PL-1 PIPE LUG	SEE RMKS	--	230100	X . . .	NO MT DUE TO INACCESSIBILITY CAUSE BY PENETRATION,
CR.4	C-C	32-M8-2121-2PL-2 PIPE LUG	MT	300-1/7	230200	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
CR.4	C-C	32-M8-2121-2PL-3 PIPE LUG	MT	300-1/7	230300	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
CR.4	C-C	32-M8-2121-2PL-4 PIPE LUG	MT	300-1/7	230400	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
CR.4	C-C	32-M8-2121-2PL-5 PIPE LUG	MT	300-1/7	230405	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
CR.4	C-C	32-M8-2121-2PL-6 PIPE LUG	MT	300-1/7	230410	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
CR.4	C-C	32-M8-2121-2PL-7 PIPE LUG	MT	300-1/7	230415	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
CR.4	C-C	32-M8-2121-2PL-8 PIPE LUG	MT	300-1/7	230420	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,
CR.4	C-C	32-M8-2121-2PL-9 PIPE LUG	MT	300-1/7	230425	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE LUG CONFIGURATION,
CR.4	C-C	32-M8-2121-2PL-10 PIPE LUG	MT	300-1/7	230430	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION, NO MT IN THE COUNTERCLOCKWISE DIREC- TION DUE TO THE PIPE OBSTRU- TION,
CR.4	C-C	32-M8-2121-2PL-11 PIPE LUG	MT	300-1/7	230435	X . . .	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION,

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MAIN STEAM SYSTEM, LINE NO. 32-M8-2121 (SEE FIG. D-16)

(CONTD)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N S C O M P L E T E D	REMARKS
C2.4	C-C	32-M8-2121-2PL-12 PIPE LUG	MT	300-1/7	230440	X - - -	NO MT FROM THE UPSTREAM SIDE DUE TO THE PENETRATION.
C2.4	C-C	32-M8-2121-4PL-1 PIPE LUG	MT	300-1/7	230700	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINTS.
C2.4	C-C	32-M8-2121-4PL-2 PIPE LUG	MT	300-1/7	230800	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINT.
C2.4	C-C	32-M8-2121-4PL-3 PIPE LUG	MT	300-1/7	230810	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINT.
C2.4	C-C	32-M8-2121-4PL-4 PIPE LUG	MT	300-1/7	230820	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINT.
C2.4	C-C	32-M8-2121-4PL-5 PIPE LUG	MT	300-1/7	230830	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINT.
C2.4	C-C	32-M8-2121-4PL-6 PIPE LUG	MT	300-1/7	230840	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINT.
C2.4	C-C	32-M8-2121-4PL-7 PIPE LUG	MT	300-1/7	230850	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINT.

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MAIN STEAM SYSTEM, LINE NO. 32-M8-2121 (SEE FIG. D-18)

(CONTD)

ASME SECT XI ITEM NO	ASME SECT XI CATOY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N G T R S E H E I O E C O M R	REMARKS
C2.4	C-C	32-M8-2121-YPL-B PIPE LUG	MT	300-177	230860	X - - -	NO EXAMINATION FROM THE UP- STREAM OR DOWNSTREAM ENDS OF THE LUG DUE TO THE PIPE RE- STRAINT.

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MAIN STEAM SYSTEM, LINE NO. 32-M8-2111 (SEE FIG. D-19)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N S C O M P O N E N T S	REMARKS
C2.3	C4G	32-M8-2111-4/6-M8-2111 6 IN. BRANCH CONNECTION	NOT REQ	231900	X		THIS WELD IS ENCAPSULATED IN PIPE AND IS INACCESSIBLE.

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MAIN STEAM SYSTEM, LINE NO. 30-M8-2141 (SEE FIG. D-16)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N O T R E E H E I O E C G M R	REMARKS
C2.4	C-C	30-M8-2141-4PL-1 PIPE LUG	MT	300-1/7	233200	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,
C2.4	C-C	30-M8-2141-4PL-2 PIPE LUG	MT	300-1/7	233300	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,
C2.4	C-C	30-M8-2141-4PL-3 PIPE LUG	MT	300-1/7	233400	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,
C2.4	C-C	30-M8-2141-4PL-4 PIPE LUG	MT	300-1/7	233500	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,
C2.4	C-C	30-M8-2141-4PL-5 PIPE LUG	MT	300-1/7	233510	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,
C2.4	C-C	30-M8-2141-4PL-6 PIPE LUG	MT	300-1/7	233520	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,
C2.4	C-C	30-M8-2141-4PL-7 PIPE LUG	MT	300-1/7	233530	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,
C2.4	C-C	30-M8-2141-4PL-8 PIPE LUG	MT	300-1/7	233540	X - - -	NO MT FROM THE DOWNSTREAM SIDE DUE TO THE PIPE COLLAR,

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RESIDUAL HEAT REMOVAL SYSTEM, LINE NO. 14-RH-2124 (SEE FIG. D-3E)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D E S T R U C T I O N E R C O M M E N T S	REMARKS
C2.1	C-F	14-RH-2124-5 ELBOW TO PIPE	SEE RMKS ==	263218	X		THIS WELD IS WITHIN THE FLOOR AND IS INACCESSIBLE.

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RESIDUAL HEAT REMOVAL SYSTEM, LINE NO. 14-RH-2114 (SEE FIG. D-36)

ASME SECT. XI ITEM NO.	ASME SECT. XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	BHRI PROCEDURE SHEET NO./REV. NUMBER	SUMMARY E I O E C O M R	REMARKS
CR.1	C-F	14-RH-2114-18 FLANGE TO PUMP	UTOH UTYST	600-3/16 269304 600-3/16 269304	X - - - X - - -	NO UT FROM EITHER THE UP- OR DOWNSTREAM SIDE DUE TO THE PLANGE AND PUMP CONFIGURATION, *****CAL. STD.***** 14-88-40-938-79-8AH

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RESIDUAL HEAT REMOVAL SYSTEM, LINE NO. 14-RH-2112 (SEE FIG. D-37)

ASME SECT XI ITEM NO	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O O N D T R O E H E I O E C O M R	REMARKS
C2.1	C-F	14-RH-2112-18 PIPE TO ELBOW	UTOL	600-3/16	263356	X . . .	ONE UT45 INDICATION DUE TO IN-
			UT45	600-3/16	263356	. X X .	SIDE SURFACE TO CROWN GEOMETRY
			UT45T	600-3/16	263356	X . . .	
			UT60	600-3/16	263356	X . . .	

*****CAL. STD.*****
14-38-40, 438-79-8AM

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RESIDUAL HEAT REMOVAL SYSTEM, LINE NO. 8-RH-2174 (SEE FIG. D-38)

ASME SECT XI ITEM NO.	ASME SECT XI CATGY.	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N G T R S E H E I D E C Q M R	REMARKS
CP.1	C-F	8-RH-2174-6 FLANGE TO TEE	UTOL	600-3/16	263410	X - - -	NO UT FROM EITHER SIDE DUE TO TEE AND FLANGE CONFIGURATIONS.
			UTOM	600-3/16	263410	X - - -	
			UT49T	600-3/16	263410	X - - -	

*****CAL. STD.*****
8-88-80-484-32-SAM

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RESIDUAL HEAT REMOVAL SYSTEM, LINE NO. 8-RH-2126 (SEE FIG. D-41)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI NO./REV.	SUMMARY SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N C O M P O N E N T S	REMARKS
CR.1	C&G	8-RH-2126-1 PUMP TO VALVE	UTOM UT45T	600-3/16 600-3/16	263509 263509	X X	NO UT FROM EITHER SIDE DUE TO PUMP AND VALVE CONFIGURATION *****CAL, STD,***** B-89-80-484-32-8AM
CR.1	C&F	8-RH-2126-4 PLANGE TO VALVE	UTOM UT45T	600-3/16 600-3/16	263514 263514	X X	NO UT FROM EITHER SIDE DUE TO THE FLANGE AND VALVE CONFIGU- RATION. *****CAL, STD,***** B-89-80-484-32-8AM

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RESIDUAL HEAT REMOVAL SYSTEM, LINE NO. 8-RH-2116 (SEE FIG. D-12)

ASME SECT XI ITEM NO	ASME SECT XI CATOY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D T R S E H E I O E C Q M R	REMARKS
C2.1	C&F	8-RH-2116-4 FLANGE TO VALVE	UT SST	800-36/5	263620	X - - -	NO UT FROM EITHER SIDE DUE TO THE FLANGE AND VALVE CONFIGU- RATION. *****CAL STD***** 8-88-40-330-44-8AM
			UT SST	600-3/16	263620	X - - -	

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SAFETY INJECTION SYSTEM, LINE NO, 12-SJ-2152 (SEE FIG. D-48)

ASME SECT XI ITEM NO.	ASME SECT XI CATQY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SWRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N I O N D E S T R U C T I V E E X A M I N A T I O N R E S U L T C O M M E N T S	REMARKS
C2.4	C=C	12-SJ-2152-4P8-1 PIPE SUPPORT	SEE RMKS --	263827	X - - -		THIS WELD IS IN THE WALL AND IS INACCESSIBLE.
C2.4	C=C	12-SJ-2152-4P8-2 PIPE SUPPORT	SEE RMKS --	263828	X - - -		THIS WELD IS IN THE WALL AND IS INACCESSIBLE.
C2.1	C=F	12-SJ-2152-4A PIPE TO ELBOW	SEE RMKS --	263829	X - - -		THIS WELD IS IN THE WALL AND IS INACCESSIBLE.
C2.1	C=F	12-SJ-2152-26 PIPE TO ELBOW	SEE RMKS --	263876	X - - -		THIS WELD IS INACCESSIBLE DUE TO A METAL BOX ENCAPSULATION.

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SAFETY INJECTION SYSTEM, LINE NO. 8-8J-2162 (SEE FIG. D-46)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI PROCEDURE NO./REV.	SUMMARY SHEET NUMBER	N O N D E S T R U C T I V E E X A M I N A T I O N C O D E	REMARKS
CR.1	C-F	8-8J-2162-1 TEE TO PIPE	SEE RMKS --	263922	X - - -		A HANGER IS WELDED OVER THIS WELD. THE WELD WAS NOT EXAM- INED.
CR.1	C-F	8-8J-2162-3 FLANGE TO PIPE	SEE RMKS --	263927	X - - -		A HANGER IS WELDED OVER THIS WELD. THE WELD WAS NOT EXAM- INED.

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-2104 (SEE FIG. D-50)

ASME SECT XI ITEM NO.	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SNRI PROCEDURE SHEET NO./REV.	SUMMARY SHEET NUMBER	N.I. Q.N. R.S. E.I. C.O. M.R.	REMARKS
02.1	C-F	6-SJ-2104-1 REDUCER TO ELBOW	UTOW UT45T	600-3/16 600-3/16	264200 264200	X = = X = =	NO UT FROM EITHER SIDE DUE TO THE REDUCER CONFIGURATION AND THE ELBOW CURVATURE. *****CAL. STD.***** 6-88-160-764-25-SAM
02.1	C-F	6-SJ-2104-4 SAFE-END TO NOZZLE	UT45T UTOW	600-3/16 600-3/16	264200 264200	X = = X = =	NO UT FROM EITHER SIDE DUE TO NOZZLE CONFIGURATION AND DUE TO WELD 6-SJ-2104-3. *****CAL. STD.***** 6-88-160-764-25-SAM

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SAFETY INJECTION SYSTEM, LINE NO. 6-SJ-2103 (SEE FIG. D-50)

ASME SECT XI ITEM NO	ASME SECT XI CATGY	WELD NUMBER AND/OR EXAMINATION AREA IDENTIFICATION	EXAM. METHOD	SHRI NO./REV.	SUMMARY SHEET NUMBER	H I O N O T R E H E I O E C O M P O N E N T S	REMARKS
CR.1	C-F	6-SJ-2103-3 ELBOW TO REDUCER	UTOL	600-3/16	264220	X	NO UT FROM EITHER SIDE DUE TO TO THE ELBOW CURVATURE AND THE REDUCER CONFIGURATION. *****CAL. STD.***** 6-99-160-,764-25-0AM
			UTDH	600-3/16	264220	X	
			UT45T	600-3/16	264220	X	

ATTACHMENT 3

DETAILED EXPLANATION OF EXCEPTIONS TO THE ASME BOILER AND PRESSURE VESSEL CODE SECTION XI FOR THE SALEM UNIT NO. 1 INSERVICE INSPECTION PROGRAM

Item B1.2 Category B-B

Closure Head Peel Segment-To-Disc Circumferential Weld

Volumetric examination will not be performed on this weld due to inaccessibility. A visual examination for leaks will be performed during pressure tests required by Section XI. This weld is identified as 1-RPV-6046 B in the examination plan.

As indicated in PSE&G Sketch No. 8-9-77 attached, this weld is located within the area covered by the Control Rod Drive Penetrations. This location prevents access to the weld for any type of volumetric or surface examination from either the inside or outside surface of the closure head. To gain access would require removing and re-installing numerous Control Rod Drive penetration tubes.

Bottom Head Peel Segment-To-Disc Circumferential Weld

Volumetric examination will not be performed on this weld due to inaccessibility. A visual examination for leaks will be performed during pressure tests required by Section XI. This weld is identified as 1-RPV-4043 in the examination plan.

As indicated in PSE&G Sketch No. 8-9-77 attached, this weld is located within the area covered by the instrumentation tube penetrations. This location prevents access to the weld for any type of volumetric or surface examination from either the inside or outside surface of the bottom head. To gain access would require removing and re-installing numerous instrumentation tubes.

Item B1.4 Category B-D

Reactor Vessel Inlet Nozzle To Shell Welds

Volumetric examination will not be performed when the Core Barrel is in place due to inaccessibility. The examinations will be performed when the core barrel is removed during the inspection interval. These welds are identified as 27.5-1110-1, 27.5-RPV-1120-1, 27.5-RPV-1130-1 and 27.5-RPV-1140-1 in the examination plan.

As indicated in PSE&G Sketch No. 8-15-77 attached, the Core Barrel covers the weld area when it is in place. Since all weld examinations are performed from the inside surface using an mechanized inspection device, these welds are inaccessible at this time. Examinations cannot be performed from the outside surface due to the area being covered by insulation on the shell of the weld and the configuration of the weld joint on the nozzle side of the weld. The insulation on the shell portion of the reactor vessel is not designed for removability and to remove it would require the cutting away of the insulation support rings from the vessel.

Since the Core Barrel is scheduled to be removed towards the end of the inspection interval to facilitate their examinations, and ASME Code Case N-73 (1647) allows these examinations to be deferred to the end of each inspection interval, it is PSE&G's position that the intent of the Code is being complied with.

Reactor Vessel Outlet Nozzle to Shell Welds

Volumetric examination will be performed with the Core Barrel in place except for the examination of the Reactor Vessel base metal due to inaccessibility. The base metal will be examined when the Core Barrel is removed during the inspection interval. These welds are identified as 29-RPV-1110-1, 29-RPV-1120-1, 29-RPV-1130-1 and 29-RPV-1140-1 in the examination plan.

As indicated in PSE&G Sketch No. 8-16-77 attached, the Core Barrel covers the reactor vessel base metal when it is in place. Since all weld examinations are performed from the inside surface using an automated inspection device, these welds are inaccessible at this time. Examination cannot be performed from the outside surface due to the area being covered by insulation which would require the cutting away of the insulation support rings to remove.

Since the Core Barrel is scheduled to be removed towards the end of the inspection interval, and ASME Code Case N-73 (1647) allows these examinations to be deferred to the end of each inspection interval, it is PSE&G's position that the intent of the code is being complied with.

Item B1.14 Category B-I-1

Reactor Vessel Cladding

Visual examination will not be performed on the Reactor Vessel Shell Cladding when the Core Barrel is in place due to inaccessibility. The examination will be performed when the Core Barrel is removed during the inspection interval. The patches of cladding to be examined are identified as 1-RPV-Patch-1, 1-RPV-Patch-2, 1-RPV-Patch-3, 1-RPV-Patch-4, 1-RPV-Patch-5 and 1-RPV-Patch-6 in the examination plan.

Since this examination can only be performed from the inside surface of the reactor vessel shell, the examination can only be performed when the Core Barrel is removed. The Core Barrel is scheduled to be removed towards the end of the inspection interval.

Item B4.5 Category B-J

Reactor Coolant Loop Piping Longitudinal Welds

Volumetric examinations will not be performed on the longitudinal welds in the reactor Coolant Piping elbows. Surface examinations will be performed as well as a visual examination for leaks required by Section XI. These welds are identified as 31-RC-1110-2, 31-RC-1120-2, 31-RC-1130-2, 31-RC-1140-2, 29-RC-1110-4, 29-RC-1120-5, 29-RC-1130-5 and 29-RC-114-5 in the examination plan.

The Reactor Coolant loop elbows are made of cast stainless steel which cannot be penetrated by ultrasonic examination techniques. Also, acceptable radiographs cannot be obtained by present techniques due to fogging of the film caused by long exposure time coupled with background radiation from the reactor coolant piping. Radiography will be considered as new techniques are developed that would make it possible to examine these welds in the future.

Reactor Coolant Loop Piping Circumferential Welds

Volumetric examination on eight reactor coolant loop piping welds is expected to be restricted during inservice inspection due to inaccessibility. These welds are identified as 31-RC-1110-5 and 6, 31-RC-1120-5 and 6, 31-RC-1130-5 and 6, and 31-RC-1140-5 and 6 in the examination plan.

Due to anti-whip restraints that were installed after the preservice examination was completed, portions of these circumferential welds are expected to become inaccessible for inservice examination. The extent of inaccessibility will be determined during the first inservice examination of these welds.

Item B5.6 Category B-L-1

Reactor Coolant Pump Casing Welds

Volumetric examination will not be performed on these welds. A surface examination will be performed as well as a visual examination for leaks required by Section XI. These welds are identified as 11-PMP-1, 12-PMP-1, 13-PMP-1 and 14-PMP-1 in the examination plan.

The Reactor Coolant Pump casings are made of cast stainless steel which can not be penetrated by ultrasonic examination techniques. Also, acceptable radiographs cannot be obtained due to fogging of the film caused by long exposure time coupled with background radiation from the pump casing. Radiography will be considered as new techniques are developed to examine these welds in the future.

BB/LL:mlr
10-18-77

P77 79 24/27

DOLLAR
PLATE
WELD

—SEE DETAIL "A"

CONTROL ROD
DRIVE —
PENETRATIONS

CLOSURE HEAD ASSEMBLY
SCALE: $\frac{1}{2}" = 1'-0"$

DOLLAR
PLATE
WELD

SEE DETAIL "A"

INSTRUMENT TUBE
PENETRATIONS

BOTTOM HEAD ASSEMBLY
SCALE: $\frac{1}{2}" = 1'-0"$

DETAIL "A"
X-Y COORDINATES
SCALE 1" = 1'-0"

SECTION "A"- "A"
SCALE: 1/2" = 1'-0"

SECTION "A"-"A"
SCALE: $\frac{1}{2}" = 1'-0"$

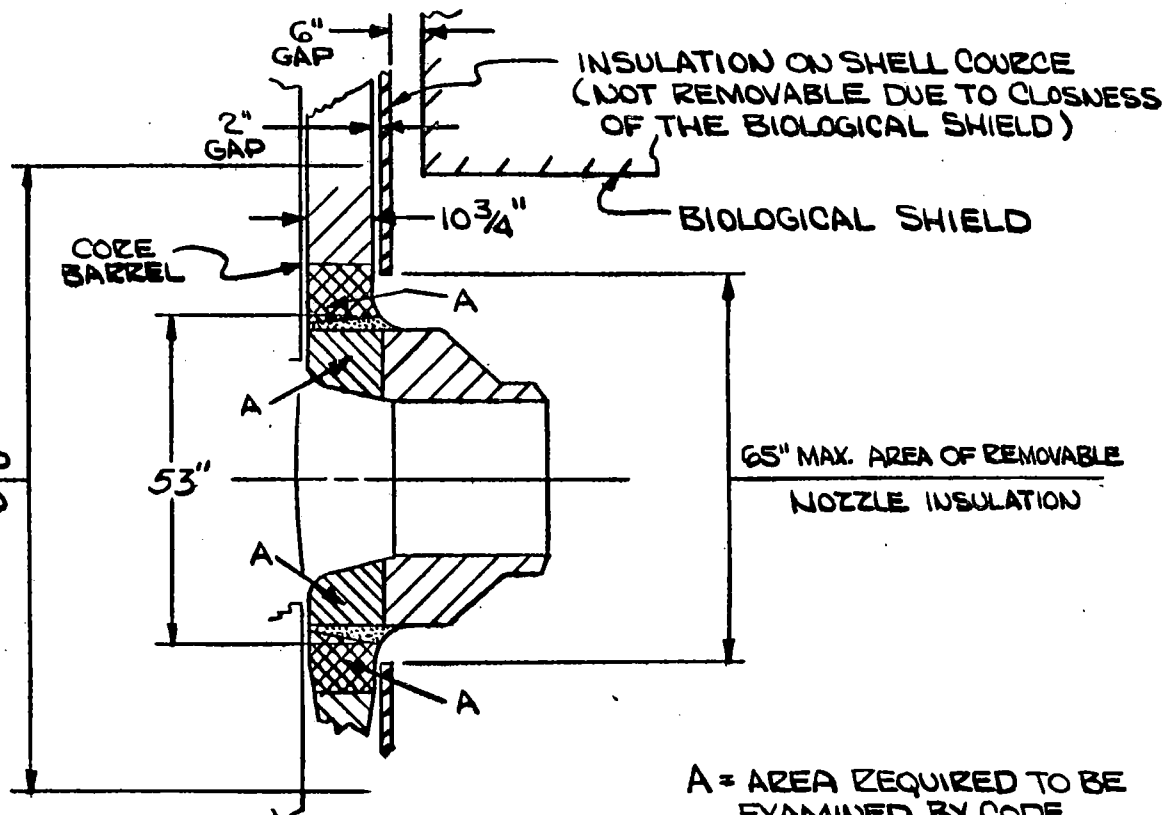
REFERENCE DRAWINGS

(X"-Y" COORDINATES _____ 5008919 (SHOTS THRU) (W)
CLOSURE HEAD ASSY. _____ 233-046-5 FOR (W)
BOTTOM HEAD ASSY. _____ 233-043-4 FOR (W)

[illegible]

GENERAL NOTES
USE PRINTS OF LATEST REVISION ONLY
DO NOT SCALE - USE DIMENSIONS ONLY.
FOR LIST OF REFERENCE DRAWINGS SEE
DRAWING NO. _____
THIS DRAWING SUPERSEDES _____
THIS DRAWING IS SHEET NO. _____ OF _____ SHEETS

DOLLAR PLATE WELD LOCATION
RPV CLOSURE HEAD AND
BOTTOM HEAD
NO. 1 UNIT SALEM NUC. GENERATING STA.
PUBLIC SERVICE ELECTRIC AND GAS COMPANY
ENGINEERING DEPARTMENT
NEWARK, N. J.
DRAWN J. EVAN CHECKED _____ SCALE AS SHOWN
DATE _____ EXAMINED _____
AUTH. A-6299-1 APPROVED *John H. Fike*
SK 8-9-77



WORKING AREA NEEDED
FOR CODE EXAMINATION
187"

A = AREA REQUIRED TO BE EXAMINED BY CODE

No.	Date	Description	Dwn.	Ckd.	Exd.	Appd.				
REVISION										

GENERAL NOTES

USE PRINTS OF LATEST REVISION ONLY.
DO NOT SCALE - USE DIMENSIONS ONLY.
FOR LIST OF REFERENCE DRAWINGS SEE
DRAWING NO. _____
THIS DRAWING SUPERSEDES _____
THIS DRAWING IS SHEET NO. _____ OF _____ SHEETS

INLET NOZZLE CONFIGURATION
N2.1 UNIT
SALEM NUCLEAR GEN. STATION

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
ENGINEERING DEPARTMENT
NEWARK, N. J.

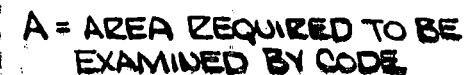
NEWARK, N. J.

DRAWN J.R. CHECKED _____ SCALE N.T.S.

DATE _____ EXAMINED _____

AUTH. _____ APPROVED L.H. Lake

SK-8-15-77



No.	Date	Description	Own.	Cld.	End.	Appl.			
REVISION									

GENERAL NOTES

**USE PRINTS OF LATEST REVISION ONLY.
DO NOT SCALE - USE DIMENSIONS ONLY.
FOR LIST OF REFERENCE DRAWINGS SEE**

DRAWING NO. _____
THIS DRAWING SUPERSEDES _____
THIS DRAWING IS SHEET NO. _____ OF _____ SHEETS

OUTLET NOZZLE CONFIGURATION
N8.1 UNIT
SALEM NUCLEAR GEN. STATION

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
ENGINEERING DEPARTMENT
NEWARK, N. J.

DRAWN J.R. CHECKED _____ SCALE N.T.S.
DATE _____ EXAMINED _____
AUTH. _____ APPROVED P.T. Lake

SK-B-16-77

ATTACHMENT 4

Inservice Testing of Category A, B, (and C) Valves

The following category C check valves cannot be full or part stroke exercised during normal plant operation for the following reasons:

Safety Injection System

11-14 SJ 17 Safety Injection Charging Line Cold Leg Check Valves

- a. For operational modes 1 and 2, testing would require pumping 2,000 ppm borated water into the RCS. This would render the reactor subcritical and would also violate Tech. Spec. LCO 3.5.4.1.
- b. For operational modes 3 and 4, testing would ultimately require significant RCS dilution and boric acid recovery operation. It would also present a possible RCS overpressurization and would violate Tech. Spec. LCO 3.5.4.1 and certain operating procedures.

11-12 SJ 34 Safety Injection Pump Discharge Check Valves

- a. For operational modes 1, 2 and 3, the RCS pressure is greater than the Safety Injection Pump shut-off head.
- b. For operational mode 4, testing of these check valves could result in a possible RCS overpressurization and also contradict operating procedures.

11-14 SJ 43 Residual Heat Removal Discharge Check Valves to Cold Leg

- a. For operational modes 1, 2, 3 and 4, the RCS pressure is greater than the shut-off head of the RHR pumps.

11-14 SJ 55 Accumulator Discharge Check Valves

- a. For operational modes 1, 2, and 3, the RCS pressure is greater than accumulator pressure.
- b. For operational modes 4 and 5, testing would require significant RCS dilution and boric acid recovery. There is also the possibility of RCS overpressure and a contradiction of operating procedures.

11-14 SJ 56 Safety Injection and Residual Heat Removal Discharge to Cold Legs

- a. For operational modes 1, 2, and 3, the RCS pressure is greater than the pumps shut-off head.

- b. For operational mode 4, there is the possibility of RCS over-pressurization and a contradiction of operating procedures.

→ 1 SJ 70 Refueling Water Storage Tank to Residual Heat Removal Pump Check Valve

- a. For operational modes 1, 2 and 3, this system is normally not in service and therefore requires testing immediately prior to returning to service (ASME Code Section XI Par IWV 3410 Part (f)).

11-14 SJ 139 Safety Injection Pumps Discharge to Hot Legs

- a. For operational modes 1, 2 and 3, testing is not possible since RCS pressure is greater than pump shut-off head.
- b. For operational model 4 and 5 there is the possibility of RCS over-pressurization and testing would violate operating procedures.

11-14 SJ 144 Safety Injection to Cold Legs

- a. For operational modes 1, 2, and 3 testing is not possible since RCS pressure is greater than pump shut-off head.
- b. For operational model 4 there is the possibility of RCS over-pressurization and testing would violate operating procedures.

1 SJ 150 Boron Injection Tank Discharge Check Valve to Cold Legs

- a. For operational modes 1 and 2, testing of this valve would render the reactor subcritical and would also violate Tech. Spec. LCO 3.5.4.1.
- b. For operational modes 3 and 4, testing would ultimately require significant RCS dilution and boric acid recovery and would present a possible RCS over-pressurization.

11-14 SJ 156 Safety Injection to Hot Leg

- a. For operational modes 1, 2 and 3, the RCS pressure is greater than pump shut-off head.
- b. For operational modes 4 and 5, there is the possibility of RCS over-pressurization and this procedure contradicts operating procedures.

COMPONENT COOLING SYSTEM

ICC 137 Component Cooling Check Valve from R.C.P. Lube Oil Coolers

- a. For operational modes 1-4, component cooling cannot be isolated when any Reactor Coolant Pump is operating.

1 CC 317 No. 11 Charging Pump - Mechanical Seal Heat Exchange Inlet
1 CC 320 No. 12 Charging Pump - Mechanical Seal Heat Exchange Inlet

- a. For operational modes 1-3, Tech. Spec. requirement 3.5.2 requires both pumps be operable. Isolating these valves for test places these pumps in an inoperable condition.

RESIDUAL HEAT REMOVAL

11-12 RH 8 Residual Heat Removal Pumps Discharge Check Valve

- a. This system is normally out of service and requires testing immediately before returning to service (ASME Code Section XI Par IWV 3410 part (f)).

13.14 RH 27 Residual Heat Removal Pump Discharge to 13 and 14 Hot Leg

- a. See 11-12 RH 8.

AUXILIARY FEEDWATER SYSTEM

11-13 AF 8 Auxiliary Feed Pump Discharge Check Valve to Steam Generators

- a. These check valves can be tested in any operational mode except model 1. The flow required in mode 1 is to great for Auxiliary Feed Pumps to maintain SG levels.

11-14 AF 23 Auxiliary Feed Check Valve at Steam Generators

Same conditions as 11-13 AF 8

CONTAINMENT SPRAY SYSTEM

11-12 CS 4 Containment Spray Pump Discharge Check Valve

- a. Check valves cannot be tested in modes 1-4 since Tech. Spec. 3.6.2.1 requires a specific valve line up. A test would require a deviation from that line up.
- b. The test would require a discharge to the reactor cavity. The cavity is dry until mode 6.

11-12 CS 21 Eductor Suction Check Valves

See 11-12 CS 4 Requirements.

11-12 CS 48 Containment Spray Header Check Valves

See 11-12 CS 4 Requirements.

CHEMICAL AND VOLUME CONTROL SYSTEMS

11-13 BR 152 Discharge from Volume Control Relief Tank to 11-13 Holding Tank

- a. Test requires removal of VCT relief valve for temporary source connection. This test will be done during mode 6.

1 CV 23 Let Down to Mixed Bed Demineralizer

- a. This valve is located in a concrete vault to protect personnel from the radiological hazard. This valve will be tested in operational mode 6.

1 CV 36 Demineralizer Return to Volume Control Tank

- a. See 1 CV 23 Requirements.

1 CV 42 Volume Control Tank Discharge Check Valve

- a. To test requires closing valves 1 CV 40 and 1 CV 41. Alternate source of water is from Refueling Water Storage Tank through valves 1 SJ 1 or 1 SJ 2. This is 2,000 ppm boric water which would render reactor sub-critical. Testing will be done in mode 6.

1 CV 74 Charging Safety Injection Pump Discharge to Regenerate Heat Exchanger

- a. Tested in mode 6 because of the normally high radiation level.
- b. Flow through valve required during normal operation.

11-14 CV 99 Seal Flow Check Valve to Reactor Coolant Pumps

- a. Flow cannot be isolated during operational modes 1-4. These valves will be tested during modes 5 or 6.

1 CV 176 Boric Acid Transfer Pumps Discharge Check Valve to Rapid Borate System

- a. Testing in operational modes other than mode 6 would cause a loss in reactor power due to high borate injection.

1 CV 196 Chemical Tank Outlet Check Valve

- a. Tested in operational modes 4-6 at which mode chemicals are added. Use of primary water would cause a reactivity change by dilution.

1 CV 198 Mixed Bed Demineralizer Check Valve to Hold up Tank

- a. Tested is mode 6 because of normally high radiation levels.

SERVICE WATER SYSTEM

11-13 SW 5 Turbine Generator Service Water Heater Check Valves

- a. Testing requires the isolation of one header to reduce pressure. This places the plant in a degrader mode of operation. Tested in mode 6.
(Note: These valves added as category (1) valves to original list).

12-14 SW 5 Nuclear Area Service Water Header Check Valves

- A. Testing requires the isolation of one hader to reduce pressure. This violates Tech. Spec. 3.7.4.1. Testing will be done in Mode 6.

11-12 SW 77 Containment Fan Coil Unit Discharge Check Valve

- a. Testing can be done in any mode of operation. Category (1) will be deleted from these valves.

11-12 SW 79 Service Water Overboard Discharge Check Valves

- a. To test these valves will require shutting down a major portion of the service water system. Testing will be done in operational mode 6.

Category C Valves

The Category C check valves identified below will be full-stroke exercised not more often than once every three months during normal plant operation in accordance with Article IWV-3520 of Section XI of the ASME code, with the exception of those valves marked (1). These valves cannot be exercised during normal plant operation and will be full-stroke exercised during Mode 5 or 6 operation, not more often than once every nine months. Those valves marked (2) will be exercised during Mode 5 or 6 operation when relief valve 1CV241 has been removed for testing.

The Category C safety/relief valved identified below will be bench tested with suitable hydraulic or pneumatic equipment in accordance with Article IWV-3510 of Section XI of the ASME Code. Those valves marked (3) will be tested in place with hydraulic or pneumatic assist equipment. Test frequencies will be determined in accordance with Table WV-3510-1.

Safety Injection System

Check Valves

1SJ3
11SJ17 (1)
12SJ17 (1)
13SJ17 (1)
14SJ17 (1)
1SJ31
11SJ34 (1)
12SJ34 (1)
11SJ43 (1)
12SJ43 (1)
13SJ43
14SJ43
11SJ55
12SJ55
13SJ55
14SJ55
11SJ56
12SJ56
13SJ56
14SJ56 (1)
1SJ70 (1)
1SJ107
11SJ139 (1)

Safety/Relief Valves

1SJ10
11SJ29
12SJ29
14SJ29
14SJ29
1SJ32
11SJ39
12SJ39
11SJ 48
12SJ48

Safety Injection System

Check Valves

12SJ139 (1)
13SJ139 (1)
14SJ139 (1)
11SJ144 (1)
12SJ144 (1)
13SJ144 (1)
14SJ144 (1)
1SJ150 (1)
11SJ156 (1)
12SJ156 (1)
13SJ156 (1)
14SJ156 (1)

Safety/Relief Valves

Component Cooling System

Check Valves

11CC1
12CC1
13CC1
1CC109
1CC137 (1)
1CC317 (1)
1CC320 (1)

Safety/Relief Valves

11CC14
12CC14
1CC34
1CC40
1CC51
1CC58
1CC63
1CC68
1CC75
1CC81
1CC112
11CC129
12CC129
13CC129
14CC129
1CC135
1CC138
1CC147
1CC156
1CC162
1CC165
1CC170
1CC193
1CC212

Chilled Water System

Check Valves

11CH13
12CH13
1CH61

Safety/Relief Valves

Residual Heat Removal System

Check Valves

1RH8 (1)
12RH8 (1)
13RH27 (1)
14RH27 (1)

Safety/Relief Valves

1RH3

Auxiliary Feedwater System

Check Valves

11AF4
12AF4
13AF4
11AF8 (1)
12AF8 (1)
13AF8 (1)
11AF23
12AF23
13AF23
14AF23

Safety/Relief Valves

1AF99
1AF128

Containment Spray System

Check Valves

11CS4 (1)
12CS4 (1)
11CS21 (1)
12CS21 (1)
11CS48 (1)
12CS48 (1)

Safety/Relief Valves

11CS5
12CS5
1CS26

Main Steam System

Check Valves

Safety/Relief Valves

11MS11 (3)
12MS11 (3)
13MS11 (3)
14MS11 (3)
11MS12 (3)
12MS12 (3)
13MS12 (3)
14MS12 (3)
11MS13 (3)
12MS13 (3)
12MS13 (3)
13MS13 (3)
14MS13 (3)
11MS14 (3)
12MS14 (3)
13MS14 (3)
14MS14 (3)
11MS15 (3)
12MS15 (3)
13MS15 (3)
14MS15 (3)

Reactor Coolant System

Check Valves

Safety/Relief Valves

1PR25

1PR3
1PR4
1PR5

Chemical and Volume Control System

Check Valves

Safety/Relief Valves

1BR99
11BR152 (2)
12BR152 (2)
13BR152 (2)
1CV23 (1)
1CV36 (1)
1CV42 (1)
1CV47
1CV52
1CV63

11BR81
12BR81
13BR81
1CV6
1CV43
1CV115
1CV124
1CV141
1CV241
1CB253

Check Valves

Check Valves

1CV74 (1)
11CV99 (1)
12CV99 (1)
13CV99 (1)
14CV99 (1)
1CV135
1CV137
1CV147
11CV154
12CV154
1CV173
1CV176 (1)
1CV180
1CV183
1CV189
1CV196 (1)
1CV198 (1)
1CV275

Safety/Relief Valves

Service Water System

Check Valves

11SW2
12SW2
13SW2
14SW2
15SW2
16SW2
11SW5 (1)
12SW5 (1)
13SW5 (1)
14SW5 (1)
11SW13
12SW13
13SW13
14SW13
15SW13
16SW13
11SW34
12SW34
11SW36
12SW36
11SW38
12SW38
11SW44
12SW44

Safety Relief Valves

1SW109
11SW242
12SW242
13SW242
14SW242
15SW242

Check Valves

Safety/Relief Valves

Check Valves

13SW44 (1)
11SW47
12SW47
11SW51
12SW51
11SW53
12SW53
11SW77
12SW77
11SW79 (1)
12SW79 (1)
11SW99
12SW99
13SW99

Nitrogen Supply System

Check Valves

Safety/Relief Valves

1NT26

1NT15

Primary Water System

Check Valves

Safety/Relief Valves

1WR81

1WR123

BB/LL:mlr
10/17/77

P77 79 09/15 & 20/23

Attachment 5

Revision 1 of the Following Diagrams

System

- | | | |
|-----|-----------------|--|
| 1. | 241825-A-1568-1 | Reactor Coolant |
| 2. | 241826-A-1568-1 | Steam Generator Feed & Condensate |
| 3. | 241827-A-1568-1 | Main Reheat and Turbine By - Pass Steam |
| 4. | 241829-A-1568-1 | Fire Protection |
| 5. | 241830-A-1568-1 | Steam Generator Drains & Blowdown |
| 6. | 241831-A-1568-1 | Chemical & Volume Control Operation |
| 7. | 241832-A-1568-1 | Chemical & Volume Control Boric Acid Recovery |
| 8. | 241833-A-1568-1 | Chemical & Volume Control Primary Water Recovery |
| 9. | 241834-A-1568-1 | Component Cooling |
| 10. | 241835-A-1568-1 | Residual Heat Removal |
| 11. | 241836-A-1568-1 | Spent Fuel Cooling |
| 12. | 241837-A-1568-1 | Safety Injection |
| 13. | 241838-A-1568-1 | Containment Spray |
| 14. | 241839-A-1568-1 | Auxiliary Feedwater |
| 15. | 241840-A-1568-1 | Waste Disposal liquid |
| 16. | 241841-A-1568-1 | Service Water Nuclear Area |
| 17. | 241843-A-1568-1 | Demineralized Water Restricted Areas |