



Public Service of New Hampshire

New Hampshire Yankee Division

George S. Thomas  
Vice President-Nuclear Production

NYN-88078

June 3, 1988

United States Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Document Control Desk

Reference: (a) Facility Operating License NPF-56, Docket No. 50-443

(b) USNRC Letter, dated April 4, 1988, "Request for Additional Information - First Ten-Year Interval ISI Program, Seabrook Station Unit 1," Mr. V. Nerses to Mr. R. J. Harrison

Subject: Response to Request for Additional Information - ISI Program

Dear Sir:

In response to Reference (b), enclosed please find the New Hampshire Yankee response to each item.

Should you require any additional information regarding this matter, please contact Mr. Robert A. Gwinn at (603) 474-9574, extension 4056.

Very truly yours,

George S. Thomas

Enclosure

cc: Mr. William T. Russell (w/o drawings)  
Regional Administrator  
Region I  
United States Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

Mr. Victor Nerses, Project Manager (w/o drawings)  
Project Directorate I-3  
Division of Reactor Projects  
United States Nuclear Regulatory Commission  
Washington, DC 20555

Mr. A. C. Cerne (w/o drawings)  
NRC Senior Resident Inspector  
Seabrook Station  
Seabrook, NH 03874

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Enclosure to NYN-88078

Item 2A

Provide the staff with the Boundary Diagrams which define the ASME Code Class 1, Class 2 and Class 3 boundaries for the systems in the Seabrook Station, Unit 1, First 10-Year Interval ISI Program Plan.

Response

Attachment A to this enclosure provides the drawings listed in Table 6 of the ISI Program Plan. These Piping and Instrumentation Diagrams (P&ID's) designate the Code Class 1, 2 and 3 lines and boundaries.

Item 2B

Provide isometric and/or component drawings showing the welds, components and supports which Section XI of the ASME Code requires examination.

Response

Attachment B to this enclosure provides an index and the ISI drawings showing welds, components and supports in the ISI Program Plan.

Item 2C

Provide a list of the calibration standards referenced in paragraph 4.2 of the ISI Program Plan which will be used during the first 10-year interval ISI at Seabrook Station, Unit 1. This list should include the calibration standard identifications, material specifications and sizes.

Response

Attachment C to this enclosure is a two page list of calibration blocks that will be used during the first 10-year interval ISI. A description, ID number and material is shown for each calibration block.

Item 2D

The ISI Program Plan, Paragraph 7.6, states: "The selection of one from the group of pumps for examination, both volumetric and visual, will be deferred until required pump maintenance necessitates disassembly". Confirm that the Code-required examinations will be performed during the interval or that relief will be requested at the end of the interval if the Code-required examinations have not been completed.

Response

The Code-required examinations will be performed during the interval. Paragraph 7.6 is intended as an explanation for not choosing a particular pump and period within the 10-year interval in which to perform the examinations. Disassembly for maintenance will provide this determination.

Item 2E

Request for Relief IR-4: With regard to the following Steam Generator nozzles, provide further information (i.e. drawing or sketches) showing the typical configuration of the nozzle inner radius sections and/or surface conditions which prohibit performing 100% of the Code-required volumetric examinations.

Nozzle ID

1-RC-E-11A-16IR  
1-RC-E-11B-16IR  
1-RC-E-11C-16IR  
1-RC-E-11D-16IR  
1-RC-E-11C-11IR

Response

Attachment D to this enclosure is a drawing of a portion of the Steam Generator vessel showing the steam outlet nozzle (i.e. 16IR). As shown, the configuration of this nozzle makes the inner radius ultrasonic examination impractical.

Nozzle inner radius on 1-RC-E-11C-11IR does not represent a configuration problem but rather a surface condition. Attachment D also shows the examination set-up utilizing the required 70 degree skew angle in which surface roughness prohibited examination.

Item 2F

Request for Relief IR-5: Relief is requested from performing a 100% volumetric examination on seven 6-inch Code Class 2 branch connection welds due to permanent obstructions that restrict volumetric examinations. It is noted that neither 83S83, Examination Category C-F, Item C5.30, nor the alternative rules of Code Case N-408, Examination Category C-F-2, Item C5.81, require volumetric examinations of these branch connections. Based on the above, provide additional information with regards to why relief is requested for these welds.

Response

It is correct that volumetric examination is not required for branch connections of this size under the stated rules. The Seabrook FSAR commits to augmented ISI of main steam and feedwater piping which consists of 100% examination of the longitudinal and circumferential welds. As depicted in Attachment E to this enclosure, these connections on the main steam header are not the normal 6" tee fitting but rather a sweep-o-let. Since these fittings represent a large weld area on the main header, a conservative judgement was made during PSI to include these welds under Examination Category C5.81.

Our relief is requesting variance due to geometric configuration, permanent obstructions and/or structural interferences on 100% examination for these welds which are being conservatively examined under C5.81.

Item 2G

General Comment: The proposed alternative examinations and justifications, used by the Licensee for all requests for relief, are based on the subject welds having received ASME Code Section III volumetric examinations and hydrostatic tests.

Examinations performed during construction ensure the structural integrity during PSI and initial operation. The results from the PSI provide base line information that may indicate the expected extent of inservice examinations. Inservice inspections are intended to detect service-induced degradation.

When limitations to specific Code-required inservice inspections are identified, other Code-required examinations are not alternatives. However, the staff may consider the measures that can be accomplished and other requirements when assessing the acceptable level of quality and safety.

Response

Any relief requests that may be generated in the future shall consider different alternatives when limitations to specific Code-required examinations are identified in lieu of specifying other Code-required examinations.

Item 2H

Verify that there are not additional relief requests, other than those submitted April 14, 1987 (IR-1 through IR-5). If additional relief requests are required, the Licensee should submit them for staff review.

Response

At this time, no additional relief requests are required. Existing relief requests are based on experience of the Preservice Inspection.

## ATTACHMENT A

## PIPING AND INSTRUMENTATION DIAGRAMS

AS-D20569	MS-D20580
	MS-D20581
CBS-D20233	MS-D20582
	MS-D20583
	MS-D20587
CC-D20205	
CC-D20206	
CC-D20207	NG-D20135
CC-D20209	NG-D20136
CC-D20211	
CC-D20212	RC-D20841
CC-D20213	RC-D20842
	RC-D20843
CGC-D20612	RC-D20844
	RC-D20845
CO-D20426	RC-D20846
CS-D20722	RH-D20662
CS-D20723	RH-D20663
CS-D20724	
CS-D20725	RMW-D20360
CS-D20726	
CS-D20727	SA-D20652
CS-D20728	
CS-D20729	SB-D20626
DG-D20458	SF-D20482
DG-D20459	SF-D20484
DG-D20460	
DG-D20461	SI-D20446
DG-D20463	SI-D20447
DG-D20464	SI-D20448
DG-D20465	SI-D20449
DG-D20466	SI-D20450
DM-D20349	SS-D20518
DM-D20352	SS-D20519
FP-D20271	SW-D20794
	SW-D20795
FW-D20686	
FW-D20688	VG-D20780
LD-D20864	WLD-D20218
	WLD-D20219
MAH-D20504	WLD-D20221

## ATTACHMENT B

## ISI DRAWINGS

PID-1-CBS-20233ISI	SPRCEDS UE&C 805023ISI-CONTAIN BLDG SPRAY S/S ISI
PID-1-CS-20722ISI	SPRCEDS UE&C 805011ISI-CHEM & VOL CONTROL SYS HEAT
PID-1-FW-20686ISI	SPRCEDS UE&C 805004ISI-FEEDWATER SYS ISI
PID-1-MS-20581ISI	SPRCEDS UE&C 805004ISI-MAIN STEAM SYS HEADERS DET
PID-1-MS-20583ISI	MAIN STEAM SYSTEM ISI
PID-1-RC-20841ISI	SPRCEDS UE&C 805003ISI-REACTOR COOLANT SYS LOOP 1
PID-1-RC-20842ISI	SPRCEDS UE&C 805004ISI-REACTOR COOLANT SYS LOOP 2
PID-1-RC-20843ISI	SPRCEDS UE&C 805005ISI-REACTOR COOLANT SYS LOOP 3
PID-1-RC-20844ISI	SPRCEDS UE&C 805006ISI-REACTOR COOLANT SYS LOOP 4
PID-1-RC-20845ISI	SPRCEDS UE&C 805002ISI-REACTOR COOLANT SYS VESSEL
PID-1-RC-20846ISI	SPRCEDS UE&C 805007ISI-REACTOR COOLANT SYS PREZZ
PID-1-RH-20662ISI	SPRCEDS UE&C 805008ISI-RESIDUAL HEAT REMOVAL TRAIN
PID-1-RH-20663ISI	SPRCEDS UE&C 805008ISI-RESIDUAL HEAT REMOVAL SYS
PID-1-SI-20446ISI	SPRCEDS UE&C 805010ISI-SAFETY INJ SYS INTERMO HEAT
PID-1-SI-20447ISI	SPRCEDS UE&C 805010ISI-SAFETY INJ SYS HIGH HEAD
PID-1-SI-20450ISI	SPRCEDS UE&C 805009ISI-SAFETY INJ SYS LOW HEAD
ISI-1-NHY-202299	SPRCEDS UE&C 202299ISI-WELD ID TABLE MAIN STEAM
ISI-1-NHY-202300	SPRCEDS UE&C 202300ISI-MAIN STM ATMOS RELIEF
ISI-1-NHY-202301	SPRCEDS UE&C 202301ISI-ISI WELD ID MAIN STEAM SYS
ISI-1-NHY-202302	SPRCEDS UE&C 202302ISI-ISI WELD ID MAIN STEAM SYS
ISI-1-NHY-202303	SPRCEDS UE&C 202303ISI-ISI WELD IDENT MAIN STEAM
ISI-1-NHY-202304	SPRCEDS UE&C 202304ISI-ISI WELD IDENT MAIN STEAM
ISI-1-NHY-202396	SPRCEDS UE&C 202396ISI-ISI WELD ID FEEDWATER SYS
ISI-1-NHY-202397	SPRCEDS UE&C 202397ISI-ISI WELD ID FEEDWATER SYS
ISI-1-NHY-202398	SPRCEDS UE&C 202398ISI-ISI WELD IDENT FW SYS #4608
ISI-1-NHY-202399	SPRCEDS UE&C 202399ISI-ISI WELD IDENT FW SYS #4609
ISI-1-NHY-202445	SPRCEDS UE&C 202445ISI-ISI WELD ID MAIN STEAM
ISI-1-NHY-800013	SPRCEDS UE&C 800013ISI-ISI WELD ID RC SYS LINE #13
ISI-1-NHY-800015	SPRCEDS UE&C 800015ISI-ISI WELD ID RC SYS LINE #15
ISI-1-NHY-800018	SPRCEDS UE&C 800018ISI-ISI WELD ID RC SYS LINE #18
ISI-1-NHY-800021	SPRCEDS UE&C 800021ISI-ISI WELD ID RC SYS LINE #21
ISI-1-NHY-800030	SPRCEDS UE&C 800030ISI-ISI WELD ID RC SYS LINE #30
ISI-1-NHY-800033	SPRCEDS UE&C 800033ISI-ISI WELD ID RC SYS LINE #33
ISI-1-NHY-800044	SPRCEDS UE&C 800044ISI-ISI WELD ID RC SYS LINE #44
ISI-1-NHY-800045	SPRCEDS UE&C 800045ISI-ISI WELD ID RC SYS LINE #45
ISI-1-NHY-800048	SPRCEDS UE&C 800048ISI-ISI WELD ID RC SYS LINE #48
ISI-1-NHY-800049	SPRCEDS UE&C 800049ISI-ISI WELD ID RC SYS LINE #49
ISI-1-NHY-800058	SPRCEDS UE&C 800058ISI-ISI WELD ID RC SYS LINE #58
ISI-1-NHY-800059	SPRCEDS UE&C 800059ISI-ISI WELD ID RC SYSTEM
ISI-1-NHY-800062	SPRCEDS UE&C 800062ISI-WELD ID RC SYS LINE 62
ISI-1-NHY-800074	SPRCEDS UE&C 800074ISI-ISI WELD ID RC SYS LINE 74
ISI-1-NHY-800075	SPRCEDS UE&C 800075ISI-ISI WELD ID RC SYS LINE 75
ISI-1-NHY-800076	SPRCEDS UE&C 800076ISI-ISI WELD ID RC SYS LINE 76
ISI-1-NHY-800080	SPRCEDS UE&C 800080ISI-ISI WELD ID RC SYS LINE #80
ISI-1-NHY-800093	SPRCEDS UE&C 800093ISI-ISI WELD ID RC SYS LINE 93
ISI-1-NHY-800094	SPRCEDS UE&C 800094ISI-ISI WELD ID RC SYS
ISI-1-NHY-800096	SPRCEDS UE&C 800096ISI-ISI WELD ID RC SYS LINE 96
ISI-1-NHY-800097	SPRCEDS UE&C 800097ISI-ISI WELD ID RC SYS LINE 97
ISI-1-NHY-800098	SPRCEDS UE&C 800098ISI-ISI WELD ID RC SYS LINE 98
ISI-1-NHY-800151	SPRCEDS UE&C 800151ISI-ISI WELD ID RH SYS LINE 151
ISI-1-NHY-800152	SPRCEDS UE&C 800152ISI-ISI WELD ID RH SYS LINE 152
ISI-1-NHY-800155	SPRCEDS UE&C 800155ISI-ISI WELD IDENT RH SYS #155
ISI-1-NHY-800157	SPRCEDS UE&C 800157ISI-ISI WELD ID RH SYSTEM
ISI-1-NHY-800158	SPRCEDS UE&C 800158ISI-ISI WELD ID RH SYSTEM
ISI-1-NHY-800159	SPRCEDS UE&C 800159ISI-ISI WELD ID RH SYSTEM
ISI-1-NHY-800160	SPRCEDS UE&C 800160ISI-ISI WELD ID RH SYS LINE 160
ISI-1-NHY-800161	SPRCEDS UE&C 800161ISI-ISI WELD ID RH SYSTEM
ISI-1-NHY-800162	SPRCEDS UE&C 800162ISI-ISI WELD ID RH SYSTEM
ISI-1-NHY-800163	SPRCEDS UE&C 800163ISI-ISI WELD ID RH SYSTEM
ISI-1-NHY-800167	SPRCEDS UE&C 800167ISI-WELD ID RH SYS LINE # 167
ISI-1-NHY-800178	SPRCEDS UE&C 800178ISI-ISI WELD ID RHR SYSTEM
ISI-1-NHY-800179	SPRCEDS UE&C 800179ISI-ISI WELD ID RHR SYSTEM
ISI-1-NHY-800180	SPRCEDS UE&C 800180ISI-ISI WELD ID RH SYS LINE 180

## ATTACHMENT B

## ISI DRAWINGS

ISI-1-NHY-800201	SPRCEDS UE&C 800201	ISI-ISI WELD ID SI SYSTEM
ISI-1-NHY-800202	SPRCEDS UE&C 800202	ISI-ISI WELD ID SAFETY INJECT
ISI-1-NHY-800203	SPRCEDS UE&C 800203	ISI-ISI WELD ID SI SYSTEM
ISI-1-NHY-800204	SPRCEDS UE&C 800204	ISI-ISI WELD ID SI SYSTEM
ISI-1-NHY-800250	SPRCEDS UE&C 800250	ISI-ISI WELD ID SI SYSTEM
ISI-1-NHY-800251	SPRCEDS UE&C 800251	ISI-ISI WELD IDENT SI SYS
ISI-1-NHY-800256	SPRCEDS UE&C 800256	ISI-ISI WELD IDENT SI SYS
ISI-1-NHY-800258	SPRCEDS UE&C 800258	ISI-ISI WELD IDENT SAFETY INJ
ISI-1-NHY-800259	SPRCEDS UE&C 800259	ISI-ISI WELD IDENT SI SYS
ISI-1-NHY-800260	SPRCEDS UE&C 800260	ISI-ISI WELD IDENT SI SYS
ISI-1-NHY-800261	SPRCEDS UE&C 800261	ISI-ISI WELD ID SI SYSTEM
ISI-1-NHY-800270	SPRCEDS UE&C 800270	ISI-ISI WELD IDENT SI SYS #270
ISI-1-NHY-800272	SPRCEDS UE&C 800272	ISI-ISI WELD IDENT SAFETY INJRC
ISI-1-NHY-800273	SPRCEDS UE&C 800273	ISI-ISI WELD ID SAFETY INJECT
ISI-1-NHY-800274	SPRCEDS UE&C 800274	ISI-ISI WELD ID SI SYSTEM
ISI-1-NHY-800275	SPRCEDS UE&C 800275	ISI-ISI WELD ID SI SYSTEM
ISI-1-NHY-800328	SPRCEDS UE&C 800328	ISI-ISI WELD IDENT CS SYS
ISI-1-NHY-800329	SPRCEDS UE&C 800329	ISI-ISI WELD IDENT CS SYSTEM
ISI-1-NHY-800330	SPRCEDS UE&C 800330	ISI-ISI WELD IDENT CS SYSTEM
ISI-1-NHY-800331	SPRCEDS UE&C 800331	ISI-ISI WELD IDENT CS SYSTEM
ISI-1-NHY-800365	SPRCEDS UE&C 800365	ISI-ISI WELD IDENT CS SYSTEM
ISI-1-NHY-800366	SPRCEDS UE&C 800366	ISI-ISI WELD IDENT LINE NO 366
ISI-1-NHY-800368	SPRCEDS UE&C 800368	ISI-CS SYSTEM LINE NO 368
ISI-1-NHY-800369	SPRCEDS UE&C 800369	ISI-ISI WELD IDENT CS SYSTEM
ISI-1-NHY-800370	SPRCEDS UE&C 800370	ISI-ISI WELD IDENT CS SYS #370
ISI-1-NHY-800371	SPRCEDS UE&C 800371	ISI-ISI WELD IDENT CS SYSTEM
ISI-1-NHY-801201	SPRCEDS UE&C 801201	ISI-ISI WELD ID CNTMNT SPRAY SYS
ISI-1-NHY-801202	SPRCEDS UE&C 801202	ISI-ISI WELD ID CNTMNT SPRAY
ISI-1-NHY-801207	SPRCEDS UE&C 801207	ISI-ISI WELD ID CBS SYS LINE #1207
ISI-1-NHY-801208	SPRCEDS UE&C 801208	ISI-ISI WELD ID CBS SYS LINE #1208
ISI-1-NHY-801209	SPRCEDS UE&C 801209	ISI-ISI WELD ID CBS SYS LINE # 1209
ISI-1-NHY-801210	SPRCEDS UE&C 801210	ISI-ISI WELD ID CBS SYS
ISI-1-NHY-801211	SPRCEDS UE&C 801211	ISI-ISI WELD ID CBS SYS
ISI-1-NHY-801212	SPRCEDS UE&C 801212	ISI-ISI WELD ID CBS SYS
ISI-1-NHY-801213	SPRCEDS UE&C 801213	ISI-ISI WELD ID CNTMNT SPRY SYS
ISI-1-NHY-801214	SPRCEDS UE&C 801214	ISI-ISI WELD ID CBS SYS
ISI-1-NHY-801215	SPRCEDS UE&C 801215	ISI-ISI WELD ID CNTMNT SPRAY
ISI-1-NHY-801216	SPRCEDS UE&C 801216	ISI-ISI WELD ID CBS SYS
ISI-1-NHY-804000	SPRCEDS UE&C 804000	ISI-ISI WELD ID MAIN STEAM LOOP
ISI-1-NHY-804001	SPRCEDS UE&C 804001	ISI-ISI WELD ID MAIN STEAM LOOP
ISI-1-NHY-804002	SPRCEDS UE&C 804002	ISI-ISI WELD ID MAIN STEAM LOOP
ISI-1-NHY-804003	SPRCEDS UE&C 804003	ISI-ISI WELD ID MAIN STEAM LOOP
ISI-1-NHY-804606	SPRCEDS UE&C 804606	ISI-ISI WELD ID FEEDWATER SYS
ISI-1-NHY-804607	SPRCEDS UE&C 804607	ISI-ISI WELD ID FEEDWATER SYS
ISI-1-NHY-804608	SPRCEDS UE&C 804608	ISI-ISI WELD ID FEEDWATER SYS
ISI-1-NHY-804609	SPRCEDS UE&C 804609	ISI-ISI WELD ID FEEDWATER SYS
ISI-1-NHY-805554	SPRCEDS UE&C 805554	ISI-REACTOR COOLANT SYS WELD ID
ISI-1-NHY-805555	SPRCEDS UE&C 805555	REACTOR COOLANT SYS WELD ID
ISI-1-NHY-860000	SPRCEDS UE&C 860000	ISI-ISI WELD IDENT TABLE RH SYS
ISI-1-NHY-860001	SPRCEDS UE&C 860001	ISI-ISI WELD ID TABLE RH SYS
ISI-1-NHY-860002	SPRCEDS UE&C 860002	ISI-ISI WELD ID RC SYS LINE #48
ISI-1-NHY-860003	SPRCEDS UE&C 860003	ISI-ISI WELD IDENT CS SYS #369



## ATTACHMENT C

## SEABROOK STATION CALIBRATION BLOCKS

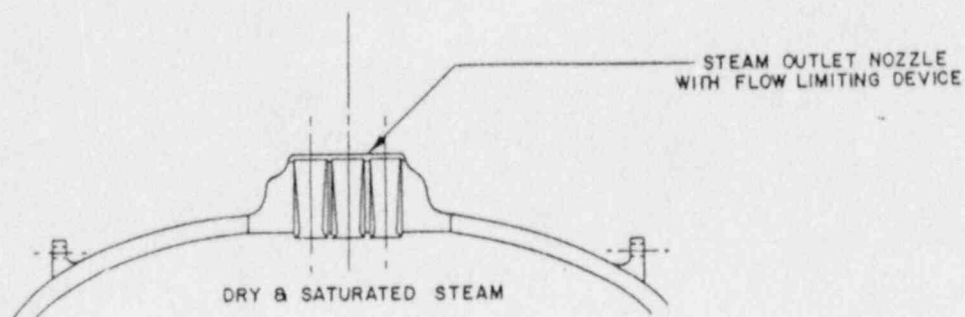
	DESCRIPTION	NUMBER	MATERIAL
5"	Reactor Vessel	196-101	SA-533 Gr. B
7"	Reactor Vessel	196-102	SA-533 Gr. B
9"	Reactor Vessel	196-103	SA-533 Gr. B
11"	Reactor Vessel	196-104	SA-533 Gr. B
	Reactor Vessel Flange Ligament	196-201	SA-533 Gr. B
	Reactor Vessel Nozzle Safe End	196-202	A-508 Cl. 2 Mod.
	Reactor Vessel Stud	SB-RPV-STUD	SA-540 Gr-B-24
	Reactor Coolant Pump Bolt	SB-RCP-BOLT	SA-540 Gr-B-24
3"	Steam Generator	1-RC-MM-428A	SA-533 Gr. A Cl. 2
4.5"	Steam Generator	1-RC-MM-428B	SA-533 Gr. A Cl. 2
	Steam Generator Primary Nozzle	1-RC-MM-430A	SA-508 Cl. 2
	Steam Generator Feedwater Inner Radius	SE-IR-47-CS	SA-533
	Eddy Current	Z-2551 t	Inconel 600 (Nom. Wall 0.042")
	Eddy Current	Z2491	Inconel 600 (Nom. Wall 0.040")
3"	Pressurizer Shell & Nozzle	1-RC-MM-427B	SA-533 Gr. A Cl. 2
	Pressurizer Spray Nozzles Inner Radius	SB-IR-23-CS	SA-533
	Pressurizer Safety Relief Nozzles Inner Radius	SB-IR-27-CS	SA-533
	Pressurizer Surge Nozzle Inner Radius	SB-IR-32-CS	SA-533
	CBS Heat Exchanger	SB-1-CBS-HX	SA-240 T-304
	RHR Heat Exchanger	SB-1-RHR-HX	SA-240 T-304

## ATTACHMENT C

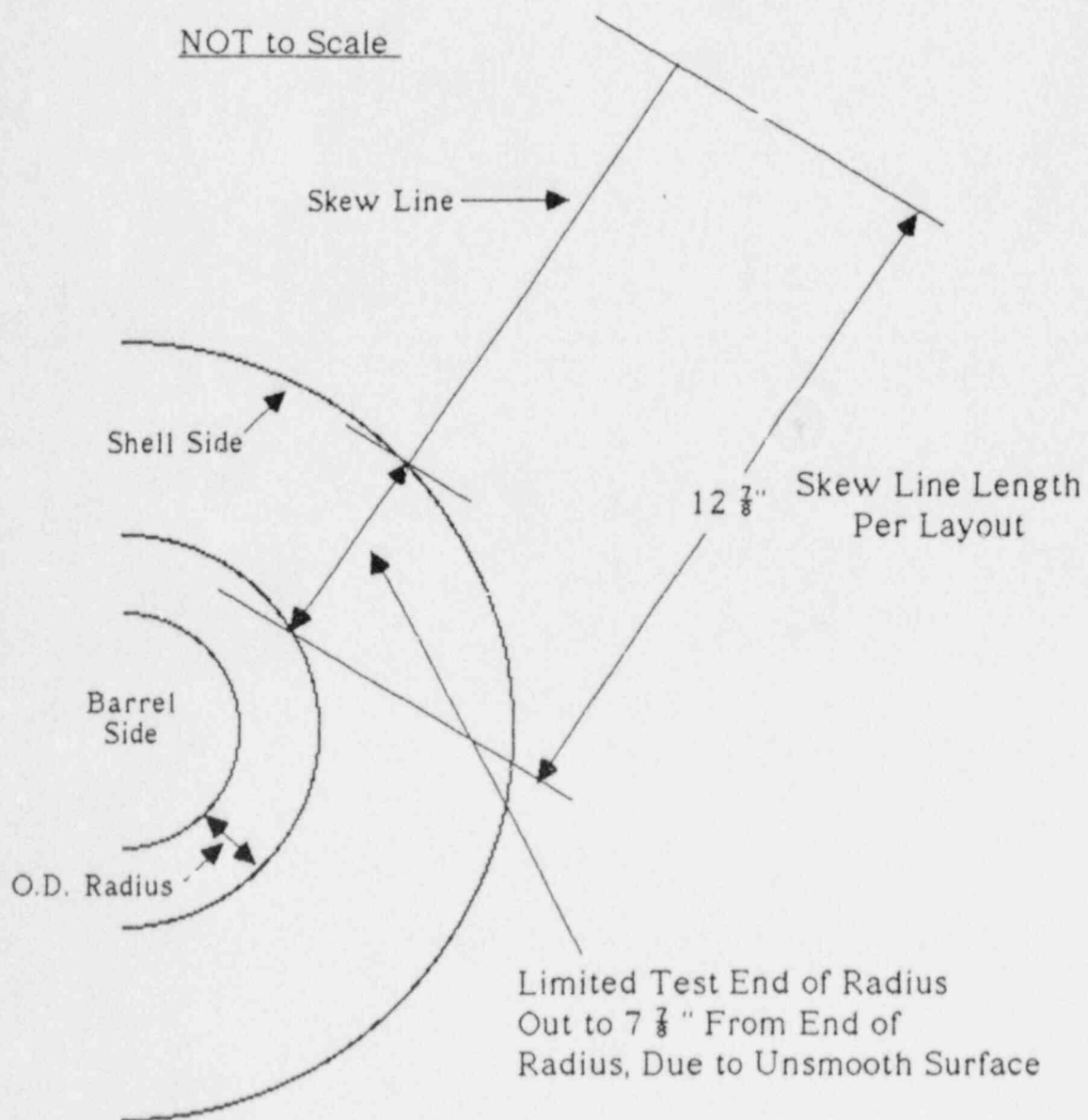
## PIPE/CLASS 1-2

NUMBER	MATERIAL	DESCRIPTION
SB-4-160-SS	SA-376 to 316	4" Sch. 160
SB-6-160-SS	SA-376 to 316	6" Sch. 160
SB-8-160-SS	SA-376 to 316	8" Sch. 160
SB-10-80-SS	SA-106 Gr.B	10" Sch. 80
SB-10-XX1-CS-F	SA-234 WPB	10" Sch. 80
SB-10-140-SS	SA-376 to 316	10" Sch. 140
SB-12-140-SS	SA-376 to 316	12" Sch. 140
SB-16-100-CS	SA-106 Gr.B	16" Sch. 100
SB-18-100-CS	SA-106 Gr.B	18" Sch. 100
SB-30-XX1-CS	SA-155 Gr.KCF70	30" (1.110" Wall)
SB-30-XX2-CS	SA-106 Gr.C	30" (1.637" Wall)
SB-32-XX1-CS	SA-155 Gr.KCF70	32" (1.500" Wall)
SB-32-XX2-C6	SA-155 Gr.KCF70	32" (1.500" Wall)
SB-14-160-SS	SA-376 T304	14" Sch. 160
SB-RC-3	SA-182 F304	31" ID (2.6" Wall)
SB-RC-4	SA-376 TP 304N	29" ID (2.33" Wall)
SB-RC-5	SA-351 Gr.CF8A	31" ID (3.0" Wall)
SB-18-XX1-CS	SA-105 Norm.	18" (1.15" Wall)
SB-30-XX3-CS	SA-105 Norm.	30" (1.15" Wall)
SB-6A-160-SS	SA-376 to E316	6" Sch. 160
SB-3-40-SS	SA-312 to 304	3" Sch. 40
SB-3-80-SS	SA-312 to 304	3" Sch. 80
SB-3-160-SS	SA-376 to 316	3" Sch. 160
SB-4-40-SS	SA-312 to 304	4" Sch. 40
SB-4-80-SS	SA-312 to 304	4" Sch. 80
SB-6-40-SS	SA-312 to 304	6" Sch. 40
SB-8-40-SS	SA-312 to 304	8" Sch. 40
SB-10-40-SS	SA-312 to 304	10" Sch. 40
SB-12-40-SS	SA-312 to 304	12" Sch. 40
SB-14-40-SS	SA-358 to 304	14" Sch. 40
SB-16-STD-SS	SA-240 to 304	16" Std. Wall

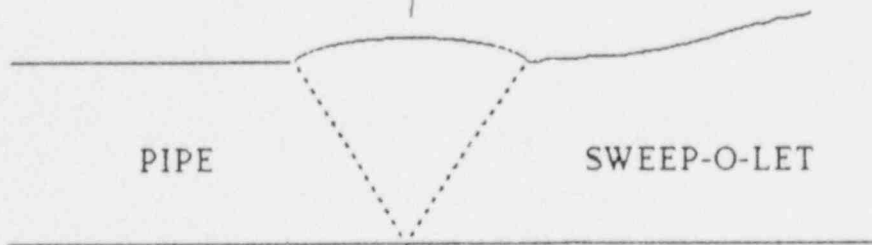
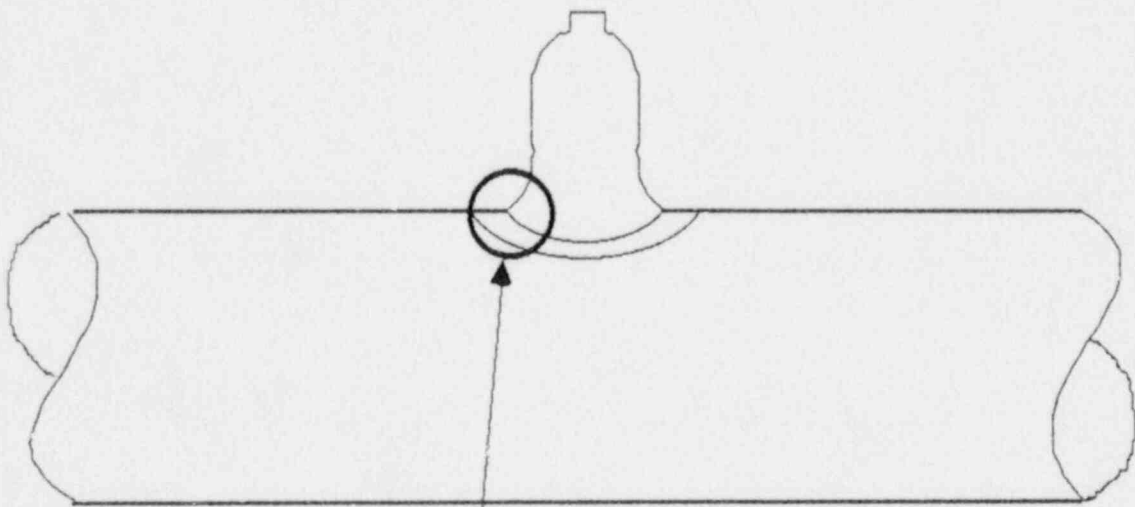
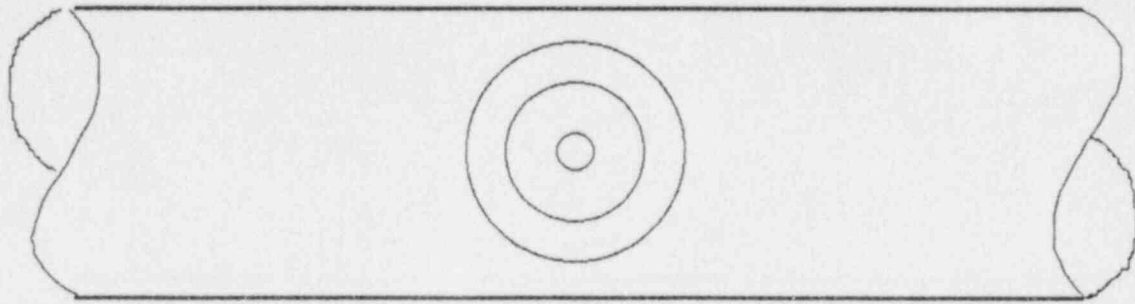
# ATTACHMENT D



NOT to Scale



ATTACHMENT E  
TYPICAL MAIN STEAM  
6" BRANCH SWEEP-O-LET



not to scale