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 MILLER, J.R. Operating Reactors Branch 3

DOCKET #
05000389

SUBJECT: Forwards response to 840914 request for addl info re
 inservice insp program. Drawings undergoing general rev
 for incorporation of as-built field changes &
 clarification.

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FLORIDA POWER & LIGHT COMPANY

November 19, 1984

L-84-340.

Office of Nuclear Reactor Regulation
Attention: Mr. James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Miller

Re: St. Lucie Unit 2
Docket No. 50-389
Request for Additional Information
Inservice Inspection Program

Florida Power & Light has reviewed the NRC letter dated September 14, 1984, which requested additional information concerning the Inservice Inspection Program at St. Lucie Unit 2.

The information requested is attached.

Should you or your staff have any questions on this information, please contact us.

Very truly yours,

J. W. Williams, Jr.
Group Vice President
Nuclear Energy

JWW/PLP/cas

cc: J.P. O'Reilly, Region II
Harold F. Reis, Esquire
PNS-LI-84-370-2

AOA
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PDR ADDCK 05000389
Q PDR

Attachment 1
Response to NRC Questions
St. Lucie Unit #2
ISI Program

1. Section 3.1, Page 3-1

Section 3.1 states: "During Preservice Inspection, there were cases where components configuration and/or interferences prohibited 100% coverage of the Code required volume or surface. In each case where such limitations were encountered, the details were documented in a Relief Request. Since those same conditions will prevail during Inservice Inspection, those Relief Requests are included for information in this document, in some cases editorially revised to the grammatical tense consistent with Inservice Inspection".

Please confirm that the relief requests included in the ISI plan for the first 10-year interval are intended to be an integral part of the plan and are applicable to the planned inspections (not just included for information):

RESPONSE:

The Relief Requests are intended to be an integral part of the plan and will be modified to reference only those items which are scheduled for examination during the first Inspection Interval.

2. Appendices H and I

The Inspection Plan Examination Tables included in Appendices H and I reference a drawing for each zone. We assume that the referenced drawings are the inspection isometric drawings which are essential for evaluation of the ISI program. Please provide copies of the inspection isometric drawings for the 70 zones covered in Appendices H and I.

RESPONSE:

The subject drawings are currently undergoing general revision for incorporation of field changes (AS-BUILT) and clarification. These will be incorporated by revision to the ISI plan, due for issue by April 14, 1985. Copies of the revised document, including the drawings, will be sent to the NRC at that time.

3. Appendices H and I

On some items the only entry in the ISI column on the Inspection Plan Examination tables is a relief request identification. The interpretation of this entry is not clear. If examination of the item is not a mandatory part of the examination sample, no relief is required. If, however, examination is mandatory and is to be conducted within the limits of the referenced relief request, the ISI column should indicate that an examination is to be conducted. Please clarify the meaning of entries in the ISI column. The final format for table entries should clearly specify which items are to be examined and which are not. In addition, the table should clearly indicate which relief request, if any, is applicable.

ANSWER:

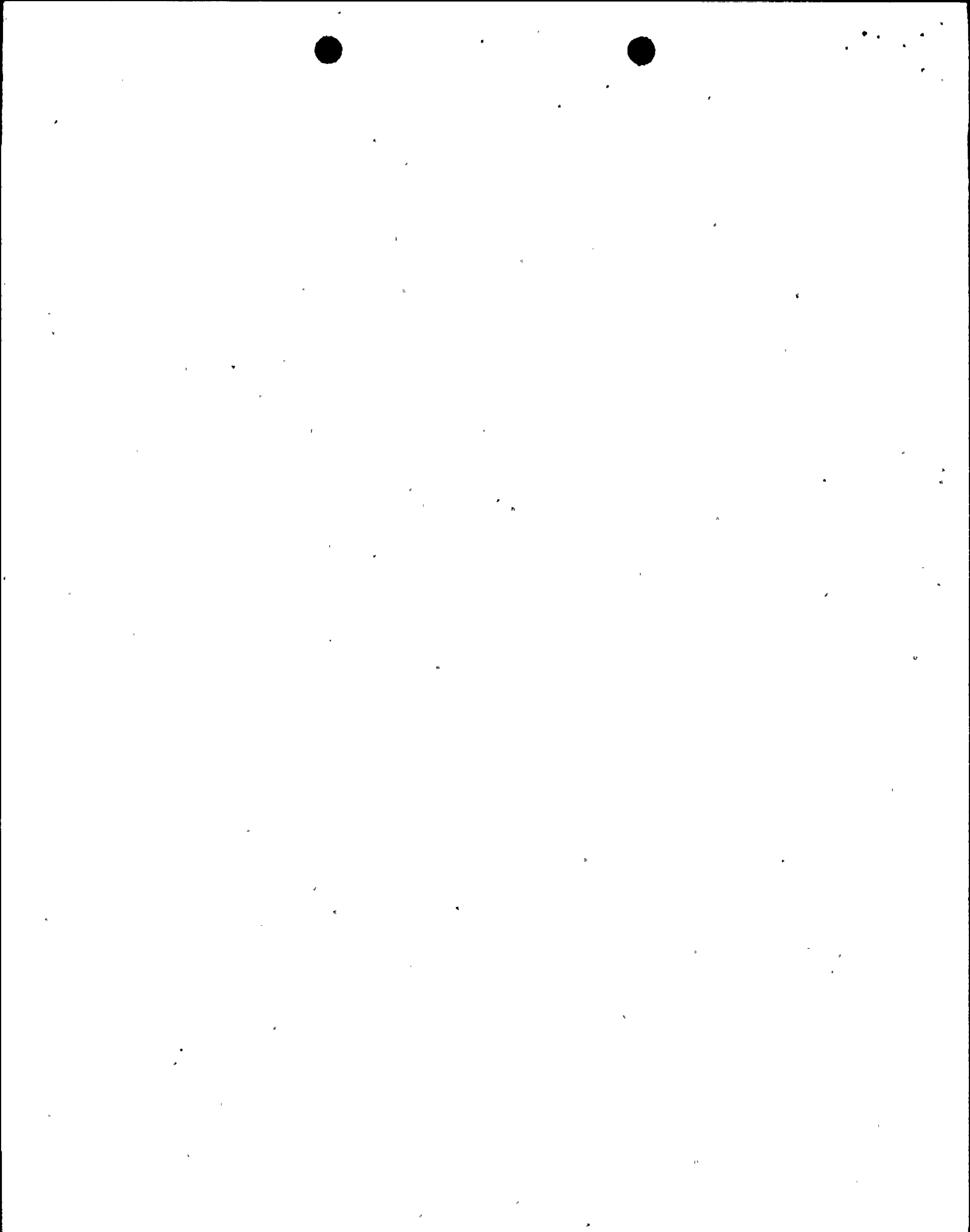
The table entries clearly specify which items are to be examined and which are not. In addition, the table clearly indicates which relief request, if any, is applicable.

As stated in Section 6.0, "Inspection Plan Examination Tables", paragraph 6.1.16, "ISI Interval", items to be examined during the interval are designated by a single digit (1, 2, or 3) representing the period in which it will be examined. This column also denotes the applicability of Relief Requests using the notation "RR" followed by a number representing the applicable Relief Request.

See the response to Question #1 for additional clarification.

4. Appendices H and I

- A. The code requirements for extent and frequency of examination under examination Categories B-J and C-F, Pressure Retaining Welds in Piping, depend on the weld configuration. In particular, welds in areas of high stress, dissimilar metal welds, welds at terminal ends and branch connections, and welds at structural discontinuities require examination during each interval. If the examination areas are not defined on the inspection isometrics to be provided under 2 above, please indicate how these specific requirements were applied to determine the extent and frequency of examinations included under Categories B-J and C-F. Please illustrate by example for a typical zone, such as Zones 31 and 32, Zones 31 and 32 are difficult to evaluate with the information given in the tables; for example, pages 31-1 and 31-2 include the examination areas for the Charging Line to Loop 2B1 and pages 32-1 through 32-3 list the examination areas for the Charging Line to Loop 2A2. Of the total 75 Category B-J welds in the charging system, only 12 are scheduled for examination.
- B. Zone No. 70, Combined CS 2A and 2B Inlet Piping from RWST, on pages 70-1 through 70-10 contains 47 circumferential piping welds, but only 8 circumferential piping welds are scheduled for examination. Please explain why the total number of welds to be examined in these systems is less than the 25% required by the Code.



Question 4 (continued)

RESPONSE: Part A

Category B-F

100% of all category B-F welds were selected to be examined in the first inspection interval.

Category B-J

Class 1 piping welds classified as B-J in accordance with the table IWB-2500-1, except as exempted by IWB-122(b), made up the group of piping welds which are subject to selection. Class 1 selections were broken down into three categories which included butt welds, sockets welds and branch connections, based on the "Examination Area Description" column of the Inspection Plant examination tables. The total number of welds of each type within category B-J was determined and then the number required to achieve a 25% selection of each type was computed. The welds selected were distributed among the various types (i.e. pipe-to-pipe, pipe-to-tee, pipe-to-elbow, etc.) using the following criteria:

- A. Terminal ends at vessels are scheduled for examination.
- B. Where possible, welds in a particular zone were grouped so that the ones selected were in close physical proximity. This grouping minimizes the time required for insulation removal, examination and weld location and results in reduced personnel radiation exposure. Also, welds selected were distributed among the various line sizes represented. As a result of the above selected method, some zones will have more than 25% of all non exempt category B-J welds.

Attached is a summary breakdown of the total welds of each type of zones including category B-J welds. The number of welds selected in each zone is indicated in parenthesis. Longitudinal seams are not designated in this breakdown; it should be understood that 12" of the long seams that intersect circumferential welds selected for examination, will be examined.

The selection criteria for Category C-F is explained in greater detail in the response to Question #10 of this submittal.

TABLE 1

Zone #	Description	Butt Welds		Branch Welds		Socket Welds	
		Existing	Selected	Existing	Selected	Existing	Selected
6	Main Coolant	6	2(a)	2	0	0	0
7	Main Coolant	4	2(a)	2	1(d)	0	0
8	Main Coolant	7	1(a) + 4(b)	1	0	0	0
9	Main Coolant	3	1(a)	2	0	0	0
10	Main Coolant	7	1(a)	1	1(d)	0	0
11	Main Coolant	3	1(a)	3	2(d)	0	0
12	Main Coolant	7	1(a)	1	0	0	0
13	Main Coolant	3	1(a)	1	0	0	0
14	Main Coolant	7	1(a)	1	0	0	0
15	Main Coolant	3	1(a)	2	0	0	0
16	Surge Line	9	1(a) + 5(b)	0	0	0	0
17 thru 20	RC Pumps	NA	NA	NA	NA	NA	NA
21	SI-Loop 2A1	21	8(b)	0	0	0	0
22	SI-Loop 2A2	19	3(b)	0	0	0	0
23	SI-Loop 2B1	28	4(b)	0	0	0	0
24	SI-Loop 2B2	19	4(b)	0	0	0	0
25	Press. Spray	10	0	0	0	0	0
26	Press. Spray Loop 2B1	25	6(b)	0	0	0	0
27	Press. Spray Loop 2B2	25	6(b)	0	0	0	0
28	Shutdown Clg. Loop B	37	7(d)	3	2(d)	12	0
29	Shutdown Clg. Loop A	34	7(d)	3	0	10	0
30	Aux. Spray	8	6(b)	0	0	23	20(b)
31	Charging Loop 2B1	6	0	0	0	19	7(b)
32	Charging Loop 2A2	9	1(b)	0	0	42	8(b)
33	2A1 Drain	1	0	2	0	5	0
34	2A2 Drain	1	0	2	0	5	0
35	2B1 Drain	1	1(b)	0	0	5	3(b)
36	2B2 Drain	1	0	0	0	5	0
37	Letdown	8	5(b)	0	0	31	30(b)
38	Relief	20	8(b)	0	0	0	0

TOTALS

340

13(a) +
61(b) +
14(d) =
88 Total

22

6(d)

157

68(b)

TABLE 2

Zone	Line Item No.	Weld I.D. No.	Selection Basis B-J (1a, b or d)
6	1	114-1	(a)
	12	201-258	(a)
7	1	123-1	(a)
	10	205-771	(d)
	12	201-258	(a)
8	1	115-4	(b)
	5	115-3	(b)
	11	115-2	(b)
	17	115-1	(b)
	20	401-258-B	(a)
9	8	115-6	(a)
10	1a	401-258-B	(a)
	18	1413-771-B	(d)
11	8	121-6	(a)
	11	812-771	(d)
	13	806-771	(d)
12	1a	401-258-A	(a)
13	8	112-6	(a)
14	1a	401-258-A	(a)
15	8	124-6	(a)
16	1a	301-771	(a)
	2	106-751	(b)
	4	107-751	(b)
	5	RC-108-FW-2	(b)
	7	101-751	(b)
	8	102-751	(b)
	21	3	RC-151-1-SW-1
21	5	SI-148-FW-5	(b)
	8	SI-148-FW-4	(b)
	9	SI-148-FW-801	(b)
	14	148-2-SW-5	(b)
	16	148-2-SW-3	(b)
	19	SI-516-FW-1	(b)
	23	SI-148-FW-1	(b)
	22	3	SI-149-FW-4
22	16	SI-149-FW-1	(b)
	21	SI-515-FW-2	(b)

TABLE 2 Cont.

Zone	Line Item No.	Weld I.D. No.	Selection Basis B-J (1a, b or d)	
23	5	SI-150-FW-4	(b)	
	22	SI-150-FW-1	(b)	
	27	517-1-SW-4	(b)	
	28	517-1-SW-3	(b)	
24	5	SI-151-FW-4	(b)	
	18	SI-151-FW-1	(b)	
	20	151-1-SW-4	(b)	
	23	SI-518-FW-1	(b)	
25	10	103C-SW-1	(b)	These three welds are actually Category B-F and are not counted for B-J.
	11	103C-SW-3	(b)	
	12	103C-SW-2	(b)	
26	8	RC-109-FW-909	(b)	
	9	RC-109-FW-908	(b)	
	18	RC-109-FW-903	(b)	
	19	109C-SW-2	(b)	
	25	109A-SW-2	(b)	
	26	109A-SW-1	(b)	
27	9	RC-141-FW-910	(b)	
	10	RC-141-FW-909	(b)	
	16	RC-141-FW-906	(b)	
	17	RC-141-FW-905	(b)	
	18	RC-141-FW-904	(b)	
	19	141C-SW-1	(b)	
28	1	RC-147-FW-1	(d)	
	6	147-1-SW-1	(d)	
	7	147-1-SW-2	(d)	
	47	SI-378-FW-901	(d)	
	49	378-2-SW-2	(d)	
	51	SI-378-FW-3	(d)	
	59	SI-191-SW-3	(d)	
29	1	SI-190-FW-1	(d)	
	2	SI-190-FW-901	(d)	
	18	162-1-SW-5	(d)	
	20	162-1-SW-3	(d)	
	31	SI-127-FW-1	(d)	
	38	127-1-SW-1	(d)	
	47	SI-378-FW-2	(d)	

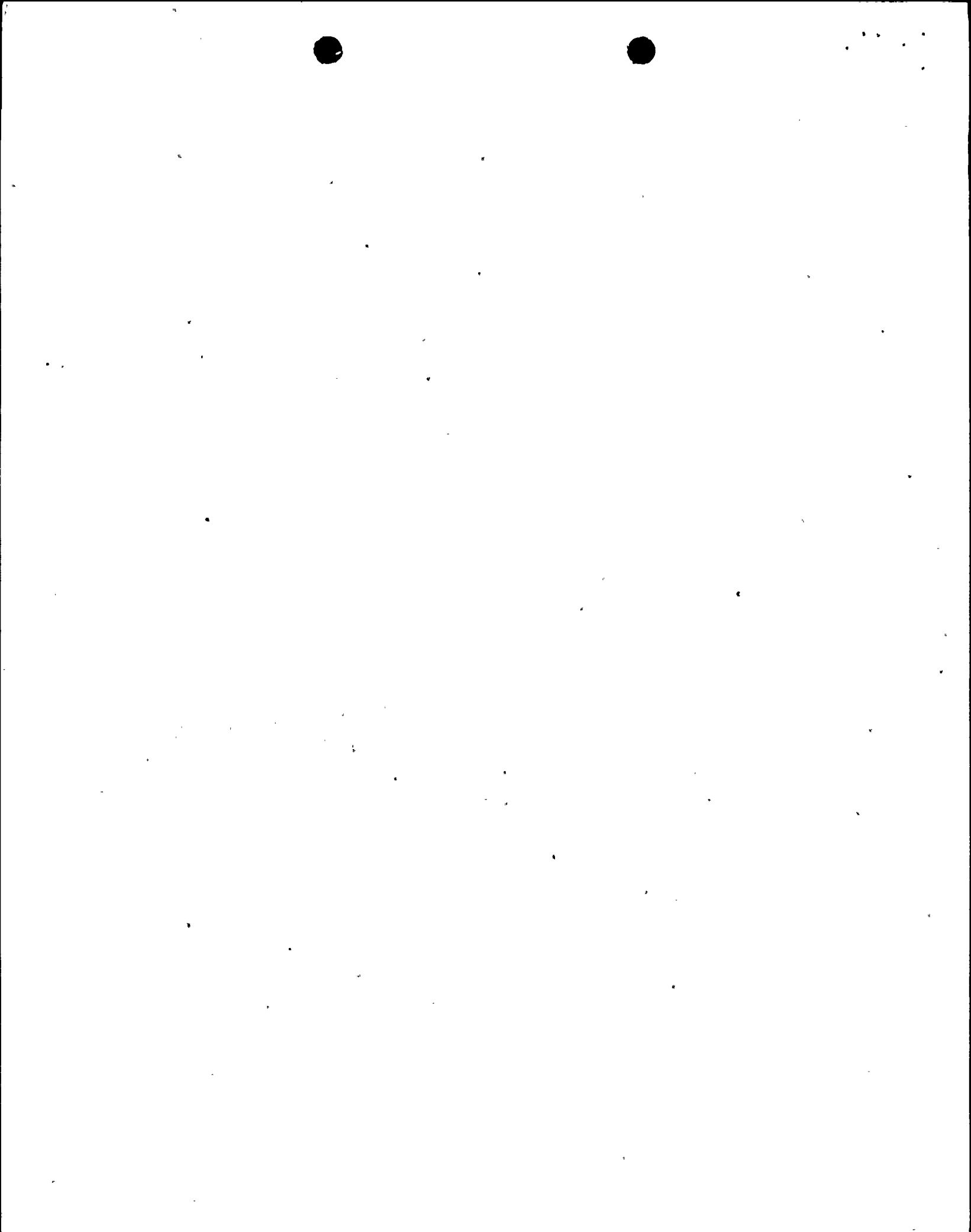


TABLE 2 Cont.

Zone	Line Item No.	Weld I.D. No.	Selection Basis B-J (1a,b or d)	
30	2	RC-149-SW-1	(b)	
	3	CH-146-FW-28	(b)	
	4	CH-146-FW-27	(b)	
	5	CH-146-FW-26	(b)	
	6	CH-146-FW-23	(b)	
	8	CH-146-SW-21	(b)	
	9	CH-146-FW-20	(b)	
	10	CH-146-SW-19	(b)	
	11	CH-146-FW-18	(b)	
	12	CH-146-SW-17	(b)	
	13	CH-146-FW-16	(b)	
	14	CH-146-SW-15	(b)	
	15	CH-146-SW-14	(b)	
	16	CH-146-SW-13	(b)	
	17	CH-146-FW-12	(b)	
	19	CH-146-FW-11	(b)	
	20	CH-146-SW-8	(b)	
	21	CH-146-SW-9	(b)	
	23	CH-146-SW-7	(b)	
	24	CH-146-FW-6	(b)	
	25	CH-347-FW-2	(b)	
	26	CH-347-SW-1	(b)	
	27	CH-146-SW-5	(b)	
	28	CH-146-SW-4	(b)	
	30	CH-146-SW-2	(b)	
	31	CH-146-FW-1	(b)	
	31	7	CH-148-SW-7	(b)
		12	CH-148-FW-12	(b)
		13	CH-148-SW-13	(b)
		16	CH-148-SW-16	(b)
		17	CH-148-SW-17	(b)
23		RC-150-SW-2	(b)	
24		RC-150-SW-3	(b)	
32	7	CH-147-SW-43	(b)	
	9	CH-147-SW-41	(b)	
	13	CH-147-SW-37	(b)	
	14	CH-147-SW-36	(b)	
	15	CH-147-SW-35	(b)	
	40	CH-147-FW-9	(b)	
	45	CH-147-SW-5	(b)	
	46	CH-147-FW-4	(b)	
	50	RC-148-SW-2	(b)	

TABLE 2 Cont.

Zone	Line Item No.	Weld I.D. No.	Selection Basis B-J (1a, b or d)
33	0	0	---
34	0	0	---
35	1	RC-122-FW-1	(b)
	2	RC-122-FW-2	(b)
	3	RC-122-SW-3	(b)
	4	RC-122-SW-4	(b)
36	0	0	---
37	1	RC-142-FW-1	(b)
	2	RC-142-SW-2	(b)
	3	RC-142-SW-3	(b)
	4	RC-142-SW-4	(b)
	5	RC-142-FW-5	(b)
	6	RC-142-SW-6	(b)
	7	RC-142-FW-7	(b)
	8	RC-142-SW-8	(b)
	9	RC-142-FW-9	(b)
	10	RC-142-SW-10	(b)
	11	RC-142-FW-11	(b)
	12	RC-142-SW-12	(b)
	13	RC-142-FW-13	(b)
	15	RC-142-FW-19	(b)
	16	RC-142-FW-18	(b)
	19	RC-142-FW-17	(b)
	20	CH-145-SW-1	(b)
	21	CH-145-SW-2	(b)
	22	CH-145-SW-3	(b)
	23	CH-145-SW-4	(b)
	24	CH-145-SW-5	(b)
	25	CH-145-SW-6	(b)
	26	CH-145-SW-7	(b)
	28	CH-145-FW-8	(b)
	29	CH-145-SW-9	(b)
	30	CH-145-SW-10	(b)
	31	CH-145-SW-11	(b)
	32	CH-145-SW-12	(b)
	33	CH-145-SW-13	(b)
	35	CH-145-SW-15	(b)
	36	CH-145-SW-16	(b)
	37	CH-145-SW-17	(b)
	38	CH-145-SW-18	(b)
	39	CH-145-FW-19	(b)
	40	CH-145-FW-20	(b)

TABLE 2 Cont.

Zone	Line Item No.	Weld I.D. No.	Selection Basis B-J (1a, b or d)
38	4	RC-309-FW-2	(b)
	10	101-1-SW-13	(b)
	11	RC-101-FW-1	(b)
	13	101-1-SW-7	(b)
	14	101-1-SW-6	(b)
	15	101-1-SW-5	(b)
	16	101-1-SW-4	(b)
	22	310-1-SW-1	(b)

Response to Question 4 continuedRESPONSE: Part B

Per the requirements of the 1974 Edition through the Summer 1975 Addenda of Section IX, 25% of the welds requiring examination must be selected. Criteria in Table IWC-2520, Category C-F exempts* pipe-to-pipe welds from examination requirements if located greater than 3 pipe diameters from rigid restraints, etc. Of the 47 circ welds in Zone 70 only 33 are subject to examination per IWC-2520, the remainder are pipe to pipe, 25% of those subject to exam is 8, hence the eight (8) welds selected for exam.

(*Pipe-to-pipe welds are not, by definition structural discontinuities".
See Footnote 1 under Code Category C-F in the above referenced Code.)

5. Appendix H, Page 1-4

On page 1-4, Item 46 identifies the reactor vessel closure studs as a line item. No ISI examination is specified, but exam note 3 which states that "surface and visual examinations are required, when disassembled, by USNRC I&E Bulletin 82-02" is referenced. The Code requires volumetric examination of the closure studs in addition to surface examination. Is volumetric examination of the closure studs to be conducted in accordance with item B6.20 or B6.307?

RESPONSE:

Volumetric and surface examinations shall be conducted in accordance with Code Item No. B.6.30 in the 3rd inspection period. This was inadvertently omitted from the plan due to clerical error. The inspection plan will be corrected in the general revision to be issued by April 1, 1985.

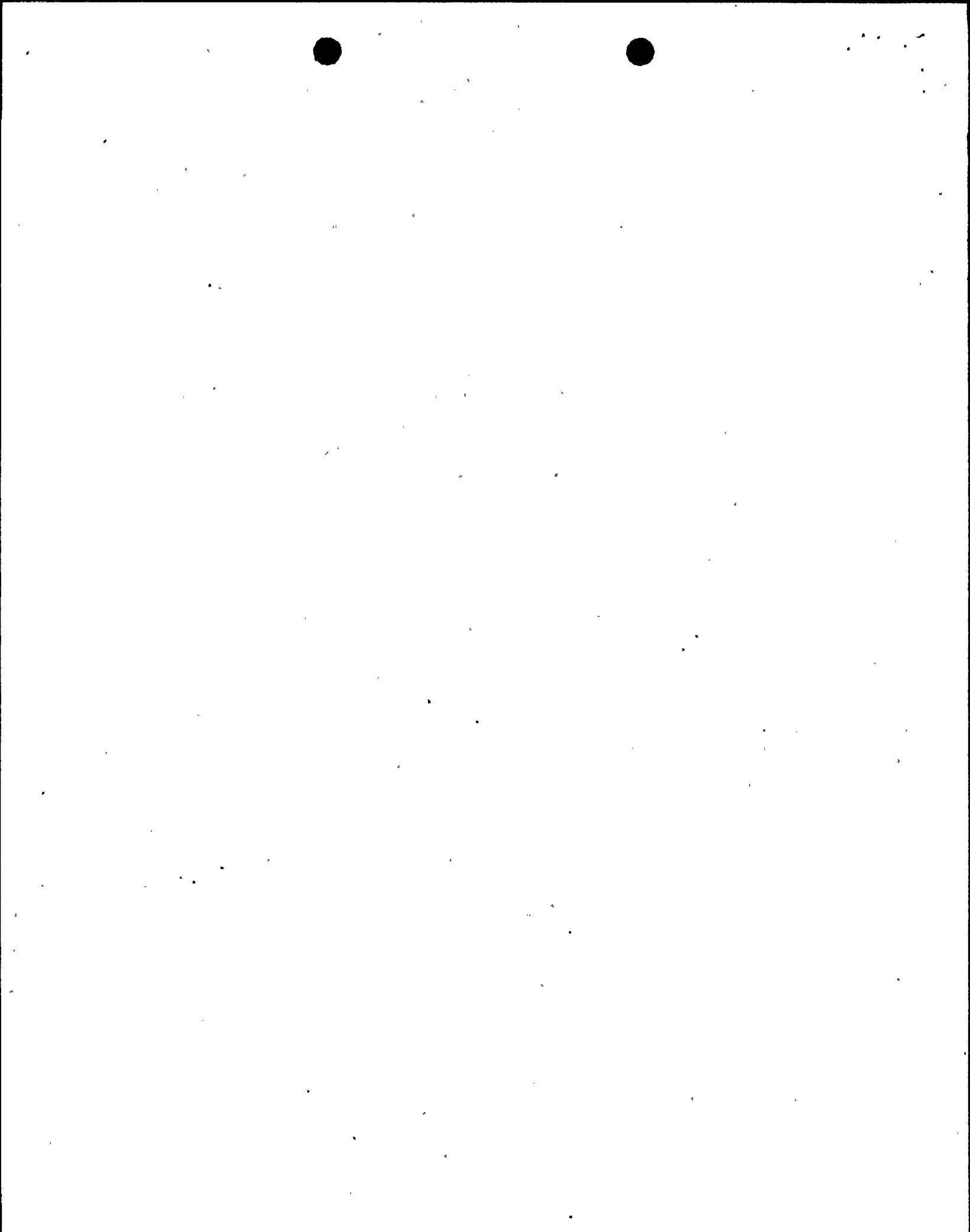
6. Appendix H

Examination areas 114-1 and 123-1, Reactor Vessel Nozzle Extension-to-Pipe, are included on page 1-3 for Zone 1 and on pages 6-1 and 7-1 for Zones 6 and 7, respectively, and different inspection frequencies are specified; i.e., Item 114-1 will be inspected in the first period on page 1-3 and not at all on page 6-1. Please clarify.

RESPONSE:

The ultrasonic examination of the subject welds is conducted from the nozzle bore, utilizing remote mechanized techniques. The surface examinations are conducted from the O.D. This accounts for the welds being included in both the RPV Zone (1) and the piping Zones (6, 7, 9, 11, 13, and 15).

There is an apparent error for all 6 welds in all zones above. In summary, all 6 welds are considered terminal ends per Category B-J criteria and will be scheduled for examination. This will be documented in the general revision to the ISI Plan, to be issued April 1, 1985.



7. Appendix H, Pages 9-1, 11-1, 13-1 and 15-1

On pages 9-1, 11-1, and 15-1 of Appendix H, the safe end-to-pipe weld (Line Item No. 2 on all pages) is identified as Code Category B-F and reference is made to Relief Request No. 5. Relief Request 5 addresses Category B-J. We assume that Code Category B-J should also be designated on pages 9-1, 11-1, 13-1 and 15-1.

RESPONSE:

The Code Category designations and Relief Request applicability are correct as listed on pages 9-1, 11-1, 13-1 and 15-1. The error exists in the Relief Request itself, which should also address Code Category B-J, which is the category of the Reactor Coolant pump-to-safe end weld. Relief Request #5 will be revised to address both code Category B-F and B-J, since both categories are represented in this particular weld configuration.

8. Appendix H, Pages 30-1 and 33-1

On page 30-1, Line item No. 1, and on page 33-1, Line Item No. 1a are included in Code Category B-F, Pressure Retaining Dissimilar Metal Welds, but no examination is scheduled. Please explain why these Category B-F welds will not be examined.

RESPONSE:

These examinations were inadvertently omitted and had already been identified for correction in the aforementioned Plan Revision. Item 30.1 will be examined in the 3rd period, item 33.1a will be examined in the 1st period.

9. Appendix I

Many of the examination tables for zone numbers 42 through 80 contain the note "No exam required" (for example, see pages 42-1 and 43-8). The use and meaning of this note are not clear. The note is referenced for some areas where no examination is scheduled, but many areas for which no exam is scheduled do not reference this note. Please clarify the use and meaning of the note "No exam required".

RESPONSE:

Table IWC-2500-1, Examination Category C-F, "Pressure Retaining Welds in Piping", Note (1) (d) required the examination of "additional welds at STRUCTURAL DISCONTINUITIES...". Structural discontinuities are defined in Note (1) (f); the definition does not include pipe-to-pipe welds. Please observe that, in each case where the note "No exam required" is invoked, the description of the joint in the "Examination Area Description" column is "Pipe-to-Pipe". Please refer to paragraph 6.1.3 of the plan for additional information.

Per the requirements of the 1974 Edition through the Summer 1975 Addenda of Section XI, 25% of the WELDS REQUIRING EXAMINATION must be selected. Criteria in Table IWC-2520, Category C-F exempts pipe-to-pipe welds from examination requirements if located >3 pipe diameters from rigid restraints, etc.

The pipe-to-pipe welds are included on the isometric drawings and in the Inspection Plan sheets to provide details of the entire piping systems only. In making our 25% sample allocation they were not counted due to the above definition. The note "No Exam Required" is therefore applicable to only these pipe-to-pipe welds.

10. Appendix I

The requirements for ISI specified in 10 CFR 50.55a include the requirement that appropriate Class 2 pipe welds in Residual Heat Removal (RHR) systems, Emergency Core Cooling (ECC) systems, and Containment Heat Removal (CHR) systems be examined. The extent of examination for these systems shall be determined by the requirements of paragraph IWC-1120, Table IWC-2520, Categories C-F and C-G, and paragraph IWC-2411 in the 1974 Edition, through Summer 1975 Addenda of Section XI of the ASME Code. The St. Lucie 2 ISI plan acknowledges this requirement, but the piping to which this requirement applies is not specifically identified. Discuss the procedure used for determining the piping system welds selected for examination. Identify the specific provisions of IWC-1220 that were used for each system.

RESPONSE:

A. SYSTEMS DENOTED ABOVE ARE CATEGORIZED BY ZONE NUMBER AS FOLLOWS:

RHR - Zones 49-52, 75-78

ECCS - Zones 43-48, 57-62

CS - Zones 70, 79, 80

Zones 73 and 74 provide suction to the pumps involved in each of the three systems above.

B. The piping system welds selected for examination were determined by applying the criteria established in the 1974 Edition through Summer 1975 Addenda of Section IX of the ASME Code. The specific criteria employed are as follows:

1. IWC-1220 Exempted Components

The following components may be exempted from the examination requirements of IWC-2520:

- d. Components connections, piping, and associated valves, and vessels (and their supports), that are 4 in nominal pipe size and smaller.

2. IWC-2411 Nondestructive Examination

- (a) Inservice examinations may be performed during normal system operation or during plant outages.

- (b) The examinations required by IWC-2520 shall be divided among the number of components of the same size and geometry in each of the multiple streams of a system which perform the same (or redundant) functions, such that the total examinations completed over the system's service lifetime will be equivalent to having performed 100% of the required examinations in one of the multiple streams of the system. Systems or portions of systems with a single stream shall be examined such that 100% of the required examinations of the components will be completed over the system's service lifetime.

Response to Question #10 (continued)

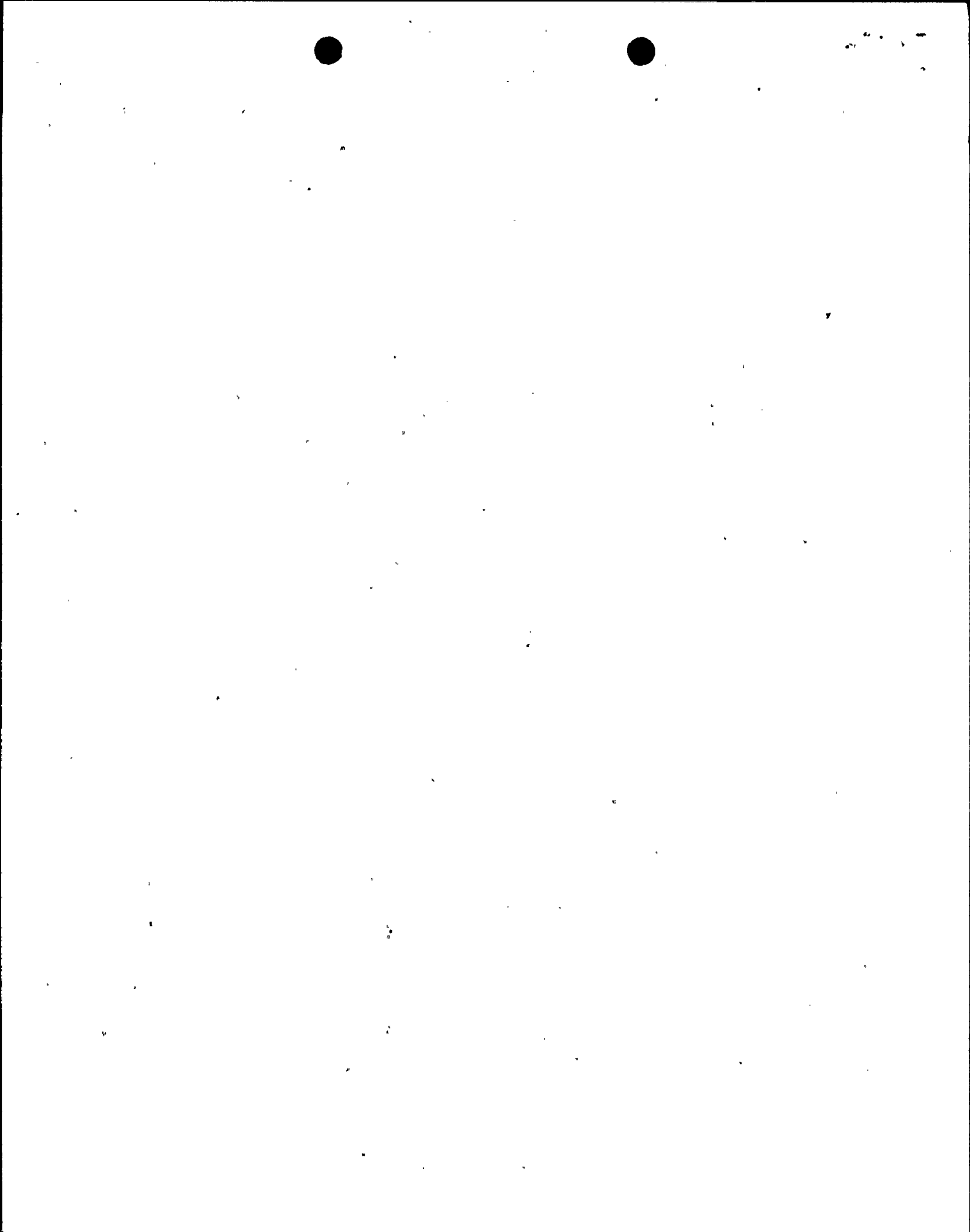
- (c) The required examinations for systems with multiple streams shall be distributed among the total number of components and streams by the application of the following procedure:
- (1) Determine the number of areas subject to examination (Table IWC-2520) for all components (of the same size and geometry) in one of the multiple streams of the system. (Where the multiple streams have an unequal number of areas subject to examination, use the average.)
 - (2) Assign an approximately equal number of the required examination areas among the respective components in each of the multiple streams of the system.
 - (3) Select different components (or areas of components) to be examined in each of the multiple streams of the system.
- (d) If the number of areas subject to examination in a specific category is less than the number of streams, at least one such area shall be examined.
- (e) The required examinations assigned to the components in each stream of the system shall be completed by the end of the service lifetime, but divided among the number of inspection intervals (e.g., four intervals for 40-year design service lifetime) in accordance with the following rules:
- (1) Distribute, to the extent practicable, the required number of examinations uniformly among the number of inspection intervals.
 - (2) Perform at least part of the required examinations by the expiration of one-third, two-thirds, and the end of each inspection interval, where the number of required examinations are distributed in accordance with IWC2410(e)(1).
 - (3) Perform at least one examination in each stream of a system during each inspection interval. Select a different component among the multiple streams during each inspection interval.
 - (4) To the extent practicable, select periods for the required examination such that the intervals between examinations for specific examination category will not exceed the inspection interval (i.e., 10 years).

3. Table IWC-2520: Code Category C-F

The attached, Table 3, denotes by zone number, systems, and multiple streams the welds subject to examination per the above noted criteria. Systems having multiple streams and performing the same function have been combined and the applicable selection criteria of IWC-2411 has been taken into account as well as Table IWC-2520 selection requirements.

TABLE 3

System Function	Zone #	C-F Welds		C-F Welds Selected	
		Subject to Exam PT	PT/UT	for exam & divided between applicable zones PT	PT/UT
LPSI (Multiple Stream)	43	56	63		
	44	58	70	14	17
LPSI (Multiple Stream)	45	0	10		
	46	0	6	0	4
	47	0	2		
	48	0	13		
RHR (Multiple Stream)	49	29	0		
	50	28	0	8	0
RHR (Multiple Stream)	51	24	0		
	52	22	0	6	0
LPSI (Multiple Stream)	57	7	2		
	58	8	2	3	3
	59	8	6		
	60	11	2		
HPSI (Multiple Stream)	61	0	12		
	62	0	10	0	3
Cont. Spray Inlet (Multiple Stream)	70	33	0	8	8
Combined CS, LPSI Suction	73	66	0		
	74	73	0	18	0
RHR (Multiple Stream)	75	31	0		
	76	29	2	8	2
	77	27	0		
	78	36	2		
Cont. Spray (Multiple Stream)	79	18	0		
	80	20	0	5	0



Attachment 2
Response to NRC Questions
St. Lucie Unit 2
Relief Requests

1. Relief Request No. 1 - Page 3-7

- (a) Relief is requested from 100% volumetric inspection of the lower shell to middle shell weld (101-171) in the reactor pressure vessel beltline region. Inspection of 83% of this weld is achieved using ultrasonic scans at several angles. Complete inspection cannot be achieved due to interference from surveillance specimens. Would removal of the surveillance specimens allow more complete inspection of the weld?
- (b) One-hundred percent of the CRV (code-required volume) is effectively examined based on the combined results of UT scans at several angles for 14 of the welds listed in Table 3.1 under Relief Request No. 1. Why are the welds included under the relief request if 100% of the CRV was examined?
- (c) It is not clear what relief is requested for examination of the RPV closure head. The table on pages 3-20 to 3-23 summarizes the incomplete examinations for the preservice inspection of the RPV closure head. Are we to assume that relief is requested during the first 10-year interval ISI for all the examinations which had less than 100% coverage of the CRV during the preservice inspection? The relief request for the RPV closure head should be in a more descriptive format; i.e., narrative discussion with summary tables that clearly state the examinations to be conducted and the relief required.

RESPONSE:

- (a) No. The surveillance specimen brackets are permanently attached to the vessel ID wall and are not removable.
- (b) IWA-2232, "Ultrasonic Examination", subparagraph (a). required that examination of the RPV welds be examined in accordance with Article 4 of ASME B & PV Code, Section V. Under Subarticle T-440, "Examination", the requirement is 100% coverage of the WELD VOLUME with both a nominal 45°, and 60° beam angle. The adjacent base metal in the examination volume must be completely scanned by two angle beams, but need not be scanned by both angle beams in both directions.

For weld metal, then, if complete coverage of the weld metal is not achieved by both the 45° and 60° beams, the 100% requirement is not met. Where "Combined" is 100%, this indicated that all of the material was interrogated by some beam angle from one direction or the other, and is not intended to suggest that the code requirement has been totally achieved. It is, rather, included as information in support of the Basis for Relief.



2. 1. 1.

Response to Question #1 (continued)

(c) Table IWB-2500-1, Category B-A, requires the examination of the accessible length of all circumferential and meridional welds in the closure head during the first inspection interval. Note (2) in that table states "Includes essentially 100% of the weld length". While the requirement as stated in the table and the footnote seem to contradict one another, FP&L's conservative approach deemed it appropriate to request relief in areas of known limitations. Since the First Interval requirements for coverage are the same as they were for Preservice, the same limitations prevail. The Relief request is accurate as written, and stands as-is for the first Interval. It will be revised as appropriate in the Second Interval Plan submittal, when only one each circumferential and meridional weld are to be examined. The extent of examination is 100% less the volume which cannot be achieved due to scan limitations, as summarized in Relief Request #1. The relief requested is for that volume which cannot be achieved due to the summarized scan limitations.

2. Relief Request No. 2 - page 3-27

The Pre service Inspection tables included in the relief request do not clearly indicate the extent of examinations to be conducted. Please summarize the extent of examination to be conducted and clearly state the relief required.

RESPONSE:

Table IWB-2500-1, Category B-B, required the examination of all circumferential welds in the steam generator and pressurized heads during the First Inspection Interval. Note (4) states: "Includes essentially 100% of the weld". Since the examination requirement is the same as for Preservice Inspection, the same limitations will prevail. The examinations schedules are shown in the Zone 3, 4, and 5 tables in Appendix I. The extent of examination is 100% less the volume which cannot be achieved due to scan limitations, as summarized in Relief Request No. 2. The relief requested is for that volume which cannot be achieved due to the summarized scan limitations.

3. Relief Request No. 3 - pages 3-57 and 3-61

In the table summarizing the incomplete examinations for which relief is requested, under this relief request, the volumetric examination coverage for the 60° angle scan is not clear.

The comment under Items 3.10, 3.11, 3.12, 4.10, 4.11, and 4.12 indicated that 13% of the CRV is missed on the 60° angle scan, but 93% CRV is reported for the 60-degree 1 scan coverage. Please clarify this apparent discrepancy.

RESPONSE:

Your observation is correct in that the comments and the reported coverage are discrepant. The comment will be revised, in each case, to read 5%, 7%, 7%, 5%, 7%, and 7% for 3.10 through 4.12, respectively.

4. Relief Request No. 6

Relief is requested from 100% volumetric inspection of 50 pressure retaining welds under Category B-J. Category B-J also required surface examination. Please confirm that surface examinations will be conducted for all the welds which cannot be examined volumetrically.

RESPONSE:

Confirmed. Please note that for those welds scheduled for examination, both surface and volumetric are listed in the appropriate examination tables of Appendix I.

Relief Request No. 9

Relief is requested from volumetric inspection of the nozzle-to-shell weld on the shutdown cooling heat exchanger (Item 55.3 and 53.6, pages 3-188 and 3-189) since the weld is inaccessible due to the installation of a welded pad (Fig. 2.9-2, page 3.191). As an alternative, would you commit to examining the pad-to-nozzle weld and the pad-to-shell weld by surface examination methods?

RESPONSE:

Yes. The Zone 55 and 56 Tables and Relief Request #9 will be revised accordingly in the aforementioned Plant revision.