

TAC 46671

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SHIELDS L. DALTROFF
VICE PRESIDENT
ELECTRIC PRODUCTION

December 3, 1982

Docket Nos. 50-277
50-278

Mr. John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stolz:

On October 1, 1981, in a letter to Mr. D. G. Eisenhut, we submitted our response to Generic Letter 81-04. In your letter to Mr. E. G. Bauer, Jr., dated November 1, 1982, after review of our submittal, you requested additional information. Because of the short time allowed to respond to your requests, we are unable at this time to respond to item 4 and part of items 5d and 6d. However, we will send our response to item 4 and the remainder of items 5d and 6d to you no later than December 15, 1982. Item 2d requests a General Electric Report which is proprietary in nature. This report will be sent under separate cover letter as soon as we receive necessary documentation from General Electric.

This letter will restate each of your requests and provide the additional information to all the remaining items.

Request:

1. Nonconforming Nonservice Sensitive Piping Recirculation System Risers and RHR Shutdown Cooling Return Lines (IV.B.2.b of NUREG-0313 Rev. 1).

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In the S. L. Daltroff letter to D. G. Eisenhut dated October 1, 1981, a revised program for mitigating IGSCC dated September 24, 1981 was attached. This program mentioned nonconforming service sensitive welds in the recirculation system risers and the RHR Shutdown Cooling Return Lines. It was inferred by EG&G Idaho personnel that not all the welds in these systems with a Stress Rule Index (SRI) greater than 1.2 would be inspected per NUREG-0313 Rev. 1.

- 1a. What proportion of the total welds in both systems with SRI >1.2 will be inspected at each successive scheduled outage under the proposed program plan?

Response:

1a. Unit No. 2

All of the following are welds that are nonconforming service sensitive with SRI numbers that are greater or equal to 1.2.

Main Recirculation (RISERS)

Loop A - 3 out of 15
Loop B - 3 out of 15

Total - 6 out of 30 = 20% of welds will be inspected each successive scheduled outage

RHR (IN)

Loop A - 3 out of 3
Loop B - 3 out of 3

Total - 6 out of 6 = 100% of welds will be inspected each successive scheduled outage

Total (RECIRC & RHR) = 12 out of 36 = 33.3%

Unit No. 3

Same as Unit No. 2

Request:

- 1b. What proportion of the total welds in both systems will be inspected at each successive scheduled outage under the proposed program plan?

Response:

1b. Unit No. 2

Main Recirculation (RISERS)

Loop A - 3 out of 19

Loop B - 3 out of 19

Total - 6 out of 38 = 15.79% of welds will be inspected each successive scheduled outage

RHR (IN)

Loop A - 3 out of 5

Loop B - 3 out of 5

Total - 6 out of 10 = 60% of welds will be inspected each successive scheduled outage

Total (RECIRC & RHR) = 12 out of 48 = 25%

Unit No. 3

Same of Unit No. 2

Request:

2. Induction Heating Stress Improvements (IHSI) for Inhibiting Growth of IGSCC.

In the S. L. Daltroff letter to D. G. Eisenhut dated October 1, 1981, IHSI was mentioned as a means of inhibiting growth of IGSCC (V of NUREG-0313, Rev. 1).

- 2a. Please provide a copy of the process specifications for the IHSI technique to be used on Peach Bottom 2&3 nonconforming piping.

Response:

- 2a. We expect to authorize General Electric Company to begin preparation of specifications for IHSI treatment approximately December 15, 1982. These specifications will be forwarded to the NRC after they are reviewed and approved by Philadelphia Electric Company.

Request:

- 2b. Please provide data and literature proving the efficacy of the particular IHSI technique to be used on Peach Bottom 2 & 3.

Response:

- 2b. Data and literature for proving the efficacy of the IHSI technique to be used at Peach Bottom is contained in the following reports:
1. General Electric Report No. NEDE-25394, Class III, July, 1981, titled "Induction Heating Stress Improvement for Stainless Steel Piping." (See Response 2d.)
 2. EPRI Report No. NP-81-4-LD, Project T113-5, Research Report, March, 1981 titled "Residual Stress Improvement by Means of Induction Heating." This report is attached.
 3. EPRI Report No. NP-2527-LD, Project T113-1, Final Report, August, 1982 titled "Induction Heating Stress Improvement, Implementation Planning, and Field Procedure Development." This report is attached.

Request:

- 2c. Please provide a schedule of application of IHSI to Peach Bottom 2&3.

Response:

- 2c. IHSI treatment is planned to be performed on welds in the nonisolatable portions of the Recirculation suction piping (Loops A and B) and the RHR shutdown cooling suction piping up to the first motor operated isolation valve in each line during the 1983 Unit 3 refueling outage. A decision on the scope of IHSI treatment of Unit 2 welds will be made at a later date.

Request:

- 2d. Please provide a copy of the General Electric Topical Report alluded to in the Daltroff-to-Eisenhut letter.

Response:

- 2d. The General Electric Report, NEDE-25394, Induction Heating Stress Improvement for Stainless Steel Piping is proprietary in nature and will be provided to you under separate cover letter as soon as we receive necessary documentation from General Electric. We expect to be able to send this material no later than December 15, 1982.

Request:

3. Augmented Inservice Inspection (ISI) of Nonconforming Pipe Welds.

In the attachment to the S. L. Daltroff letter to D. G. Eisenhut dated October 1, 1981, the augmented ISI program for nonconforming service sensitive pipe welds with a Stress Rule Index (SRI) equal to or greater than 1.2 was mentioned. Welds with SRI >1.2 would be examined during three consecutive refuel outages, then once every other scheduled refueling outage, then once every 80 months. Credit would "be taken for examination performed to date."

For the pipe welds for which the above description is valid, provide the schedule of examinations to date (IV.B.2.b of NUREG-0313, Rev. 1).

Response 3

<u>UNIT 2</u>		Interval (Year Inspected)						
		<u>18 Month</u>			<u>36 Month</u>			<u>80 Month</u>
Reactor Recirc Loop A	2-AHJ-2	'80	'82	0	0	0	0	0
	2-AHJ-3	'80	'82	0	0	0	0	0
	2-AHJ-4	'82	0	0	0	0	0	0
Reactor Recirc Loop B	2-BHA-2	'80	'82	0	0	0	0	0
	2-BHA-3	'82	0	0	0	0	0	0
	2-BHA-4	'82	0	0	0	0	0	0
RHR Shutdown Cooling Suction	10-0-1	'76	'78	'80	'82	0	0	0
	10-0-2	'76	'78	'80	'82	0	0	0
	10-0-4	'76	'78	'80	'82	0	0	0
	10-0-6	'76	'78	'80	'82	0	0	0
	10-0-7	'76	'78	'80	'82	0	0	0
RHR Shutdown Cooling Return Loop A	10-IA-8	'78	'80	'82	0	0	0	0
	10-IA-9	'78	'80	'82	0	0	0	0
	10-IA-11	'76	'78	'80	'82	0	0	0
RHR Shutdown Cooling Return Loop B	10-IB-8	'75	'82	0	--	--	--	--
	10-IB-9	'77	'82	0	--	--	--	--
	10-IB-11	'82	0	0	--	--	--	--
<u>UNIT 3</u>								
Reactor Recirc Loop A	2-AHJ-2	'81	'83	0	0	0	0	0
	2-AHJ-3	'83	0	0	0	0	0	0
	2-AHJ-4	'75	'83	0	0	0	0	0
Reactor Recirc Loop B	2-BHA-2	'82	'83	0	0	0	0	0
	2-BHA-3	'81	'83	0	0	0	0	0
	2-BHA-4	'81	'83	0	0	0	0	0
RHR Shutdown Cooling Suction	10-0-1	'78	'79	'81	0	0	0	0
	10-0-2	'78	'79	'81	0	0	0	0
	10-0-4	0	0	0	0	0	0	0
	10-0-6	'77	'79	'81	0	0	0	0
	10-0-7	'77	'79	'81	0	0	0	0
RHR Shutdown Cooling Return Loop B	10-IB-8	'78	'79	'81	0	0	0	0
	10-IB-9	'77	'79	'81	0	0	0	0
	10-IB-11	'77	'79	'81	0	0	0	0
RHR Shutdown Cooling Return Loop A	10-IA-8	'79	'83	0	--	--	--	--
	10-IA-9	'83	0	0	--	--	--	--
	10-IA-11	'77	'83	0	--	--	--	--

-- Indicates No inspection required

0 Indicates to be inspected during future outages

Request:

4. Unidentified Leakage Monitoring (IV.B.1 of NUREG-0313, Rev. 1).
 - 4a. Identify the methods to detect and monitor unidentified leakage in the pressure boundary piping of your BWR. Some of these methods are enumerated in Regulatory Guide 1.45, Paragraph B.

Response:

- 4a. To be answered under separate cover letter not later than December 15, 1982.

Request:

- 4b. Please fill out the attached table of information regarding the systems identified in the above paragraph.

Response:

- 4b. Same as response 4a, above.

Request:

5. Augmented ISI of Nonconforming Service Sensitive Pipe
 - 5a. Please identify the methods for augmented ISI of the nonconforming service sensitive pipe (IV.B.3 of NUREG-0313 Rev. 1).

Response:

- 5a. Article 5 of Section V (T-535.1b) of the ASME boiler pressure vessel code, requires a beam angle in the range of 40 degrees to 75 degrees inclusive with respect to the perpendicular to the entry surface. In the past, PECO has performed two beam angle inspections, one at 45 degrees and another at 60 degrees.

Request:

- 5b. Provide a copy of the specifications for the augmented ISI method of methods (IV.B.3 of NUREG-0313 Rev. 1).

Response:

- 5b. Attached, find a copy of Southwest Research Institute Procedure No. SWRI-NDT-600-3 for the Manual Ultrasonic Examination of Pressure Piping Welds. This procedure is used for the examination of all subject welds.

Request:

- 5c. Identify each of the augmented ISI methods used and the training and certification levels the individuals using those methods received. (IV.B.3 of NUREG-0313 Rev. 1). Indicate if cracked specimens are used in your training.

Response

- 5c. The augmented ISI methods are as noted in Response 5a above. The training & certification levels of individuals performing augmented ISI methods are as follows:

Level I: Qualified to perform certain set-ups, calibration, tests and record data according to written instructions. Level I shall implement written NDT instructions under the guidance of a certified NDT Level II or III, but never individually evaluate or accept results of an NDT examination.

Level II: Qualified to set up and calibrate equipment and to interpret and evaluate results with respect to applicable codes, standards, and specifications. He shall be able to report NDT investigations.

Level III: Qualified to evaluate examination results in terms of codes, standards and specifications.

Training & Experience Levels
Training (Hours)

	<u>Level I</u>	<u>Level II</u>
With 2 years completion of Engineering, or Science study at a university, college, or technical school	24	40
High School Grad/Equivalent	40	40

Work Time Experience (Months)

All education levels listed above	3 months	9 months
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Level III: Certified in accordance with Paragraph 6.3.1 of ASNT-TC-1A (1975)

Cracked specimens are employed by PECO, and by its vendor contractor Southwest Research Institute in training of NDT personnel.

Request:

5d. Identify the proportion of the nonconforming service sensitive pipe that is being inspected (IV.B.2.b of NUREG-0313 Rev. 1).

Response

5d. The portion of the nonconforming service sensitive piping mentioned in paragraph IV B.2.b.(1) of NUREG-0313, Rev. 1 has been modified and requires no further investigation. The modifications included the removal and capping of the recirculation bypass piping, and the replacement of 304 stainless steel core spray piping with that of conforming material (316 L stainless steel).

As mentioned in the opening paragraph of this letter, the remainder of this response will be forwarded at a later date.

Request:

5e. Identify the inspection interval of each system of the partially nonconforming service sensitive pipe (IV.B.2.b of NUREG-0313 Rev. 1).

Response:

5e. Our piping has been designated as either conforming and non-conforming service sensitive, whose inspection program/interval is as noted in our October 1, 1981 response. We have not classified any welds as partially non-conforming.

Request:

5f. Identify the Stress Rule Index Numbers for the welded joints in the partially nonconforming service sensitive pipe (IV.B.1.b (6) of NUREG-0313 Rev. 1).

Response:

5f. As noted in Response 5c above, we have classified our welds as conforming and non-conforming service sensitive. The SRI values using threshold of 1.2 (greater, equal to, or less than) are noted at top of our tables. Again, we have not classified any welds as partially non-conforming.

6. Augmented ISI of Nonconforming Nonservice Sensitive Piping.

Request:

6a. Please identify the methods of augmented ISI of the piping (IV.B.3 of NUREG-0313 Rev. 1).

Response:

6a. We use the same methods as described in Response 5a above.

Request:

6b. Please provide a copy of the specifications for the augmented ISI method or methods (IV.B.3 of NUREG-0313 Rev. 1).

Response:

6b. We use the same procedure as attached and referenced in Response 5b above.

Request:

6c. Identify each of the augmented ISI methods used and the training and certification levels the individuals using those methods received. Indicate if cracked specimens are used in your training (IV.B.3 of NUREG-0313 Rev. 1).

Response:

6c. We use the same methods, training and certification levels as described in Response 5c.

Request:

6d. Identify the proportion of the piping that is being inspected (IV.B.2.b of NUREG-0313 Rev. 1).

Response:

6d. See Response 5d above.

Request:

6e. Identify the Stress Rule Index Numbers for the welded joints in the piping (IV.B.1.b(6) of NUREG-0313 Rev. 1).

Response:

6e. Non Conforming, Nonservice Sensitive Welds (SRI Greater or Equal to 1.2)

Units 2 & 3

	Weld	SRI Value
Reactor Recirculation		
Loop A	2-AS-2	1.279
	2-AS-3	1.659
	2-AS-4	1.619
	2-AS-7	1.427
	2-AS-10	1.40
	2-AS-11	1.379
	2-AD-14	1.284
	2-AD-15	1.301
	2-AD-18	1.623
Loop B	2-BS-3	1.326
	2-BS-4	1.307
	2-BS-6	1.260
	2-BS-9	1.258
	2-BS-10	1.262

	<u>Weld</u>	<u>SRI Value</u>
RHR Shutdown		
Cooling Suction	10-0-10	1.891
	10-0-15	1.706
RHR Shutdown		
Cooling Return	10-IA-4	1.790
Loop A	10-IA-5	1.225
	10-IA-6	1.227
RHR Shutdown		
Cooling Return	10-IB-4	1.790
Loop B	10-IB-5	1.225
	10-IB-6	1.227

Request:

6f. Identify the proposed inspection interval for each system of piping (IV.B.1.b of NUREG-0313 Rev. 1).

Response:

6f. Non Conforming, Nonservice Sensitive Welds (SRI greater or equal to 1.2)

Unit 2

	<u>Weld</u>	<u>Interval</u> 80 Month Interval (Year Inspected)
Reactor Recirculation		
Loop A	2-AS-2	'80
	2-AS-3	0
	2-AS-4	'80
	2-AS-7	0
	2-AS-10	0
	2-AS-11	0
	2-AD-14	0
	2-AD-15	0
	2-AD-18	0
Loop B	2-BS-3	0
	2-BS-4	0
	2-BS-6	'75
	2-BS-9	0
	2-BS-10	0
RHR Shutdown		
Cooling Suction	10-0-10	0
	10-0-15	'77

RHR Shutdown

Cooling Return	10-IA-4	0
Loop A	10-IA-5	0
	10-IA-6	0
Cooling Return	10-IB-4	'75
Loop B	10-IB-5	0
	10-IB-6	0

Unit 3

Reactor Recirculation

Loop A	2-AS-2	'83	
	2-AS-3	'83	
	2-AS-4	'83	
	2-AS-7	'75	
	2-AS-10	'83	
	2-AS-11	'83	
	2-AD-14	0	
	2-AD-15	'75	
	2-AD-18	0	
Loop B	2-BS-3	'83	
	2-BS-4	'83	
	2-BS-6	'83	
	2-BS-9	'83	
	2-BS-10	'83	
RHR Shutdown			
Cooling Suction	10-0-10	'83	
	10-0-15	'83	
RHR Shutdown			
Cooling Return	10-IA-4	'83	
	Loop A	10-IA-5	'83
		10-IA-6	'83
Cooling Return	10-IB-4	'83	
	Loop B	10-IB-5	'83
		10-IB-6	'83

(Note: 0-Indicates to be inspected during future outages.)

Request:

7. Coolant Leakage (IV.B.1.b(2) of NUREG-0313 Rev. 1) NUREG-0313 Rev. 1 requires that:

Plant shutdown should be initiated for inspection and corrective action when any leakage detection system indicates, within a period of 24 hours or less, an increase

in rate of unidentified leakage in excess of 2 gallons per minute or its equivalent, or when the total unidentified leakage attains a rate of 5 gallons per minute or its equivalent, whichever occurs first. For sump level monitoring systems with fixed-measurement interval method, the level should be monitored at 4-hour intervals or less.

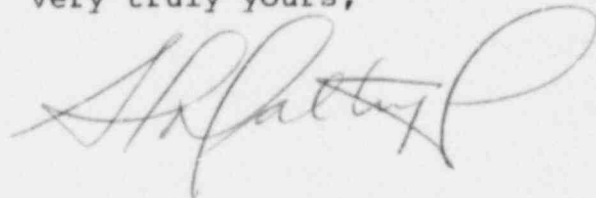
Please provide technical justification for not including this in your Technical Specifications. This justification should include data or operating experience.

Response:

7. The licensee has been meeting or exceeding the intent of Section IV.B.1.b(2) of NUREG-0313 Rev. 1. Peach Bottom Technical Specification 3.6.C together with Peach Bottom surveillance tests already meet the intent of all of the above requirements. Some of these requirements were imposed by DRO Bulletin 74-10B dated January 24, 1975. The licensee plans to incorporate a revision to the Technical Specification that reflects the model Technical Specification identified above, to the extent applicable to the Peach Bottom design. The revision will be submitted in the next technical specification amendment application initiated, excluding reload amendments and those of an emergency nature.

Should you have any questions, or require additional information, please do not hesitate to contact us.

Very truly yours,



Attachments

cc: R. A. Blough, Site Inspector

EG&G Idaho, Inc.
P. O. Box 1625
Idaho Falls, Idaho 83415
Attn: Mr. Wayne Roberts