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JUN 30 1989

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

Gentlemen:

In the Matter of	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
		50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - SUPPLEMENTAL RESPONSE TO GENERIC LETTER (GL) 88-01 (TAC 61094)

Reference: TVA letter to NRC dated January 12, 1989, "Response to Request for Additional Information on the Intergranular Stress Corrosion Cracking (IGSCC) Program,"

The purpose of this letter is to provide the results of the weld examinations on the remaining post-Induction Heating Stress Improvement (IHSI) welds, and to provide supplementary information on the IGSCC program for BFN unit 2.

Enclosure 1 contains a supplemental response to GL 88-01 that includes a list of the eight post-IHSI welds of which eight were found to have IGSCC indications. It was determined that five of the eight welds had IGSCC indications sufficient to require repair. The analysis of the remaining three welds indicated that they were acceptable for continued operation. The calculations for these welds are available for NRC review at TVA offices in Rockville. Enclosure 2 contains a list of welds with their inspection schedule and a brief summary of IGSCC mitigation used.

This letter along with the above referenced submittal have completed the actions requested by NRC in its Safety Evaluation (SE) on GL88-01 for unit 2. TVA requests the issuance of a SE documenting the resolution of this issue for restart.

If you have any questions on this matter, please call Patrick P. Carier, BFN, (205) 729-3570.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

M J Ray Jr

Manager, Nuclear Licensing
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Enclosures
cc: See page 2

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U.S. Nuclear Regulatory Commission

JUN 30 1989

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Enclosure 1

SUPPLEMENTAL RESPONSE TO GENERIC LETTER 88-01
REPORT OF INSPECTION, REPAIR AND MITIGATION PLANS FOR
BROWNS FERRY UNITS 1, 2, AND 3, IGSCC-SUSCEPTIBLE PIPING

INTRODUCTION

Generic Letter 88-01 (GL 88-01) "NRC Position on IGSCC In BWR Austenitic Stainless Steel Piping" was issued on January 25, 1988 to distribute and release NUREG 0313,R.2 "Technical Report On Material Selection and Processing Guidelines For BWR Coolant Pressure Boundary Piping." GL 88-01 requested a response to the following five specific items:

1. Plans regarding long-term mitigation of IGSCC.

2. Inservice Inspection Program plans.

3. Demonstration of conformance to the ISI requirements of GL 88-01.

4. Technical Specification (TS) conformance to staff positions on leak detection.

5. Plans to notify the NRC of flaws.

In response to the GL 88-01 request, TVA submitted a response to the NRC on August 1, 1988 which addressed these 5 items. On December 8, 1988 NRC provided TVA a Unit-2 Safety Evaluation (SE) based on the above referenced response. These included a request to address additional concerns prior to unit-2 restart. The concerns were as follows:

1. That TVA provide confirmation that the weld sample expansion requirements comply with the "Staff Position" on sample expansion established in GL 88-01.

2. That TVA address post-IHSI inspection of the remaining uninspected Unit-2 welds prior to Unit-2 restart.

3. That TVA provide TS changes to reflect leak detection requirements specified in GL 88-01.

On January 12, 1989 TVA submitted a response to NRC which addressed items 1 and 3. The TS for leak detection requirements of GL 88-01 were approved and issued by NRC on May 19, 1989. The post-IHSI inspections required in item 2 were completed in March 1989 and are included in this supplement. Since the August 1, 1988 submittal there have been changes in the scope and category of IGSCC susceptible weldments as defined in TVA's previous GL 88-01 response. This enclosure also includes information on these changes.

UNIT-2 POST-IHSI INSPECTION

In March, 1989 the post-IHSI examination of 66 unit-2 welds was completed. The previous 88-01 response had listed 71 welds as requiring post-IHSI inspection. A review of plant inspection records indicated that 8 of the 71 welds had received a documented post-IHSI IGSCC inspection and should have been classified as category "C". This review also indicated that 3 welds classified as category "C" should have been classified category "G". These 3 welds had received a code examination instead of a post-IHSI IGSCC inspection. These changes in numbers provided a total of 66 welds which required post-IHSI inspection. As follows:

71 welds in previous response
- 8 welds misclassified as "G"
+ 3 welds reclassified as "G"
66 welds post-IHSI inspected

The results of the post-IHSI inspection of the 66 welds revealed 8 welds with IGSCC indications. A summary of the welds with indications is as follows:

Weld ID	System	Number Of Indications	Max Depth
GR-2-59	Recir	6 Circumferential	40%
GR-2-61	Recir	16 Circumferential	40%
GR-2-53	Recir	1 Circumferential	16%
GR-2-45	Recir	3 Axial	*
DRHR-2-22	RHR	1 Circumferential	18%
DRHR-2-9	RHR	1 Circumferential	16%
DSRWC-2-4	RWCU	3 Axial	*
DSRWC-2-3	RWCU	4 Axial	*

Note: *There is no industry accepted method for sizing axial indications.

Structural analysis was performed on all 8 welds per the guidance provided in GL 88-01 and NUREG 0313,R.2. This analysis indicated that indications in welds GR-2-53, DRHR-2-22, and DRHR-2-9 are acceptable for continued operation until the next scheduled exam period required per GL 88-01. The three welds have received IHSI and crack growth is estimated to be minimal.

The five remaining welds were determined to require repair. Welds GR-2-59 and GR-2-61 are being repaired by the application of "full structural" weld overlays as provided under Design Change Notice (DCN) H 4972. Welds GR-2-45, DSRWC-2-4, and DSRWC-2-3 are being repaired by the application of "design" weld overlays as provided under DCN H 5077. The design of all 5 weld overlays was accomplished using the guidance provided in NUREG 0313,R.2.

REACTOR WATER CLEANUP (RWCU) PIPING OUTSIDE THE DRY WELL

As a result of an on-site NRC inspection conducted during January 30 - February 2, 1989, an unresolved item was issued concerning the scope of weldments included in TVA's August 1, 1989 GL 88-01 response. This item centered around the interpretation of the requirements in GL 88-01, which was:

"The Generic Letter applies to all BWR piping made of austenitic stainless steel that is four inches or larger in nominal diameter and contains reactor coolant at a temperature above 200°F during power operation regardless of Code classification."

Specifically, weldments in RWCU Piping outside the drywell were not included in the GL 88-01 response because the piping is classified as "noncode class". TVA interpreted the phrase "regardless of Code classification" as meaning the piping had to have a code classification to be included within the scope of GL 88-01. Subsequent discussions with NRC established that this piping was to be included within the scope. As a result of these events, TVA presented a plan to NRC which provided for replacement of the RWCU piping during the unit-2 cycle 6 outage, and replacement of RWCU the subject piping on units 1 and 3 prior to their restart. This plan was verbally accepted by NRC and was also documented in a TVA response to the NRC dated May 22, 1989. As a result of these actions, approximately 77 RWCU welds have been added to the scope for unit-2.

DISPOSITION OF BIMETALLIC WELDS

In the previous GL 88-01 response, plans to stress improve 6 unit-2 Core Spray carbon steel to stainless steel weldments were discussed. These welds involve carbon steel pipe welded with 309 weld metal to cast stainless steel valve bodies. There are also 3 RHR weldments in the same configuration which are welded with 308/309 weld metal which were not included in the previous GL 88-01 response. The following is a listing of the subject unit-2 welds.

Core Spray System Welds	RHR System Welds
TCS-2-426	DRHR-2-11
TCS-2-421	DRHR-2-2
TCS-2-406	TRHR-2-191
TCS-2-422	
TCS-2-410	
TCS-2-405	

It is TVA's position that these 9 weldments be classified as (GL 88-01) category "A" weldments and are listed as such in the unit-2 summary table. Because of this classification there will be no stress improvement applied. For units 1 and 3, a similar classification will be applied to the subject welds. Justification for the "A" classification is based on (1) NUREG 0313,R.2 interpretations, (2) metallurgical considerations and (3) field experience as follows:

- NUREG 0313,R.2 Interpretations -

Paragraph 2.1, page 2.2 of the NUREG, states that carbon steels are considered immune to the problem of sensitization and resultant IGSCC. Paragraph 2.1.1, page 2.3 states that weld joints between resistant piping and cast valve or pump bodies are special cases and are covered in the Staff Position on Inspection Schedules. Although paragraph 5.1 of the NUREG does not apply to P-1 carbon steel, paragraph 5.3.1.1, page 5.3, defines welds joining cast pump and valve bodies to resistant piping as Category "A" weldments. Thus the NUREG implies that the weld heat affected zone (HAZ) of cast valve bodies and of adjacent resistant piping is not a basis for excluding the subject welds from Category "A". Furthermore, the classification as Category "A" appears to be exclusive of the type of austenitic weld filler used between the cast valve and the resistant piping.

- Metallurgical Considerations and Field Conditions -

These weldments are welded with 309 and 308 weld metal which is a stainless steel material with a high resistance to IGSCC. Although the pickup of carbon in the weld metal adjacent to the carbon steel is generally undesirable with respect to IGSCC resistance, industry experience indicates that the dilution zone in the weld metal tends to become more like a low alloy steel. In general, a ferritic low alloy steels (which the dilution zone tends toward) are considered relatively resistant to IGSCC. Additionally BWR field experience with dissimilar metals in this application appears to be quite good. To date the performance of 308 and 309 weld buttering on carbon steel reactor vessel nozzles indicates that these weldments have been immune to IGSCC, as compared to other materials used such as Inconel 182 which has exhibited cracking problems.

INSTALLATION OF LEAK DETECTION ON PENETRATION PIPING WELDS

In the August 1988, submittal TVA stated that inaccessible piping welds in the RHR and RWCU systems will either be removed, have corrosion resistant clad applied, or have local leak detection applied. For unit-2 this was to be performed during the cycle 6 outage and for units 1 and 3 was to be applied prior to restart. The subject inaccessible welds are located inside containment piping penetrations and are listed as follows.

Reactor Water Cleanup Welds	RHR System
DRWC-?	DRHR-2-3B
	DRHR-2-13B
	DRHR-2-12
	DRHR-2-3

During unit-2 cycle 6 TVA is committed to implement one of the 3 listed options for the RWCU penetration weld because this weld is within the regime for IGSCC as defined in GL 88-01 (contains reactor coolant at a temperature above 200°F during power operation). For the RHR penetration welds, an engineering calculation has been performed which shows that the welds do not experience a temperature greater than 200°F during power operation. The calculation indicates that the RHR welds experience temperatures higher than 200°F for only a brief period (1 to 2 hours) during unit shutdown cooling. This condition therefore does not support the need for implementation of these requirements. The unit-2 accessible welds directly adjacent to these penetration welds have been and will be continued to be inspected as part of the GL 88-01 inspection plan. To date inspection of these welds has not revealed any indications. The unit-2 summary list will continue to list the RHR penetration welds as category "G," however no additional leak detection requirements beyond those required by Technical Specifications will be implemented for these welds. A similar approach will be applied to the RHR penetration welds for units 1 and 3.

UNIT-2 WELDMENT SUMMARY BASED ON THE PREVIOUSLY STATED CHANGES

PIPING WELDS	NUMBER	NUREG INSPECTION CATEGORY
Resistant welds	47	A
Welds with SI after 2 years operation	116	C
Cracked welds with SI or weld overlay	14	E
Uninspected nonresistant welds	82*	G
TOTAL	259	

*NOTE: This number includes an estimated 77 RWCU welds which are scheduled for replacement during the unit-2 cycle outage, 4 inaccessible RHR welds, and 1 inaccessible RWCU weld.

RECIRCULATION INLET SAFE ENDS		
Resistant Components	10	A
JET PUMP INSTRUMENTATION SAFE ENDS		
Resistant Components	2	A

The following is a detailed explanation of the differences in the number of welds listed in the previous submittal and this supplemental response for unit-2.

Category	August 1, 1989 GL 88-01 Submittal	Number In This Supplement Response
A	38	47
B	0	0
C	54	116
D	6	0
E	6	14
F	0	0

Explanation of changes for category "A" welds

38 welds in August,1988 Submittal
+3 carbon to SS welds added from the RHR system
+6 carbon to SS welds changed from category "D" to "A" in CS system
47 Total category "A" welds

Explanation of changes for category "C" welds

54 welds in August, 1988 submittal
- 1 weld was found not to exist in RWCU system
- 3 welds mistakenly classified as "C" reclassified to "G"
+ 8 welds mistakenly classified as "G" welds reclassified to "C"
+58 welds reclassified as "C" as a result of post-IHSI inspection
116 Total category "C" welds

Explanation of changes for category "E" welds

6 welds in August, 1988 submittal
+ 8 welds with indications that are stress improved or weld overlayed
14 Total category "E" welds

Explanation of changes for category "G" welds

76 welds in August, 1988 submittal
+77 welds in RWCU system added as category "G"
+ 3 welds mistakenly classified as "C" reclassified to "G"
- 8 welds mistakenly classified as "G" reclassified to "C"
-66 welds which received post-IHSI inspection
82 Total category "G" welds

FUTURE INSPECTION PLAN

As previously committed in the August 1, 1988 response, all welds will be inspected on each unit based on their respective category per the guidance provided in NUREG 0313,R.2.

Notes to Table 1

1. ISI dates may not be exact for each weld, but instead may reflect the ending date of the latest ISI effort in which the weld was inspected.

2. The total number of welds listed in Table 1 does not include approximately 77 reactor water cleanup welds, which are classified as category "G".

Enclosure 2

IGSCC INSPECTION AND MITIGATION
SUMMARY

- UNIT 2 WELDMENTS -
IGSCC INSPECTION AND MITGATION
SUMMARY

	WELD ID NUMBER	PIPE SIZE	SYSTEM	PIPING CONFIG	IGSCC MITIGATION	DATE OF POST IHSI EXAMINATION	NUREG CATEGORY
1	DCS-2-4	12	CS	P-P	IHSI	12/22/88	C
2	DCS-2-7	12	CS	P-E	IHSI	01/31/85	C
3	DCS-2-13A	12	CS	P-P	IHSI	06/09/86	C
4	DCS-2-5	12	CS	P-V	IHSI	01/31/85	C
5	TCS-2-426	12	CS	E-V	NONE	/ /	A
6	TCS-2-421	12	CS	R-V	NONE	/ /	A
7	DSCS-2-9	12	CS	P-E	IHSI	02/15/89	C
8	TCS-2-406	12	CS	V-P	NONE	/ /	A
9	DCS-2-13	12	CS	P-P	IHSI	01/31/85	C
10	TCS-2-422	12	CS	V-P	NONE	/ /	A
11	TCS-2-410	12	CS	E-V	NONE	/ /	A
12	TCS-2-405	12	CS	R-V	NONE	/ /	A
13	DCS-2-14	12	CS	P-V	IHSI	02/15/89	C
14	TCS-2-403	12	CS	SE-P	IHSI	09/18/86	C
15	TCS-2-401	12	CS	SE-N	IHSI	08/20/87	C
16	DSCS-2-2	12	CS	P-E	IHSI	02/15/89	C
17	DSCS-2-1	12	CS	E-P	IHSI	12/22/88	C
18	TCS-2-417	10	CS	SE-N	IHSI	08/20/87	C
19	TSCS-2-418	10	CS	SE-P	IHSI	09/18/86	C
20	JP-2-1A		JPI		REPLACED 316NG	05/16/85	A
21	JP-2-1B		JPI		REPLACED 316NG	05/15/85	A
22	KR-2-49	6X28	RECIR	P-FLN	IHSI	02/01/89	C
23	KR-2-53	6	RECIR	P-FLN	IHSI	01/30/89	C
24	GR-2-63B	5X28	RECIR	WOL-P	IHSI	02/01/89	C
25	GR-2-63A	5	RECIR	WOL-C	IHSI	02/01/89	C
26	KR-2-23	4X20	RECIR	P-WOL	IHSI	09/02/87	C
27	GR-2-4	4X28	RECIR	WOL-C	IHSI	09/18/87	C
28	GR-2-7	4X28	RECIR	WOL-C	IHSI	09/18/87	C
29	KR-2-26	4X28	RECIR	P-WOL	IHSI	09/02/87	C
30	KR-2-4	4X28	RECIR	WOL-P	IHSI	09/02/87	C
31	KR-2-1	4X28	RECIR	WOL-P	IHSI	09/02/87	C
32	GR-2-33	4	RECIR	WOL-C	IHSI	09/17/87	C
33	GR-2-30	4	RECIR	WOL-C	IHSI	09/17/87	C
34	GR-2-59	28	RECIR	SE-P	IHSI + OVERLAY	02/07/89	E
35	KR-2-46	28	RECIR	T-P	IHSI	02/11/89	C
36	N1A-2	28	RECIR	N-SE	IHSI	08/14/87	C
37	GR-2-55	28	RECIR	P-T	IHSI	02/11/89	C
38	KR-2-48	28	RECIR	P-E	IHSI	01/23/89	C
39	N1B-2	28	RECIR	N-SE	IHSI	08/17/87	C
40	KR-2-50	28	RECIR	P-E	IHSI	02/20/89	C
41	KR-2-52	28	RECIR	P-E	IHSI	02/20/89	C
42	GR-2-64	28	RECIR	E-PMP	IHSI	03/12/85	C
43	GR-2-63	28	RECIR	V-P	IHSI	01/29/89	C
44	GR-2-62	28	RECIR	E-V	IHSI	03/12/85	C
45	GR-2-28	28	RECIR	P-V	IHSI	01/30/89	C

TABLE 1
UNIT-2 WELDMENTS -
IGSCC INSPECTION AND MITGATION
SUMMARY

	WELD ID NUMBER	PIPE SIZE	SYSTEM	PIPING CONFIG	IGSCC MITIGATION	DATE OF POST IHSI EXAMINATION	NUREG CATEGORY
46	GR-2-27	28	RECIR	PMP-P	IHSI	01/29/89	C
47	KR-2-24	28	RECIR	E-P	IHSI	01/28/89	C
48	KR 2 51	28	RECIR	P-E	IHSI	02/21/89	C
49	GR-2-29	28	RECIR	V-E	IHSI	01/25/89	C
50	GR-2-34	28	RECIR	T-X	IHSI	12/18/86	C
51	GR-2-61	28	RECIR	P-P	IHSI + OVERLAY	02/17/89	E
52	KR-2-25	28	RECIR	P-T	IHSI	02/16/89	C
53	KR-2-3	28	RECIR	P-T	IHSI	02/11/89	C
54	GR-2-57	28	RECIR	V-P	IHSI	01/16/89	C
55	KR-2-2	28	RECIR	E-P	IHSI	03/12/85	C
56	GR-2-60	28	RECIR	E-P	IHSI	03/26/85	C
57	GR-2-56	28	RECIR	E-V	IHSI	01/30/89	C
58	GR-2-2	28	RECIR	P-V	IHSI	02/15/89	C
59	KR-2-47	28	RECIR	P-E	IHSI	01/26/89	C
60	GR-2 58	28	RECIR	E-PMP	IHSI	01/25/89	C
61	GR 2 3	28	RECIR	V-E	IHSI	01/28/89	C
62	GR-2-1	28	RECIR	PMP-P	IHSI	02/26/85	C
63	GR-2-8	28	RECIR	T-X	IHSI	10/25/86	C
64	GR-2-54	28	RECIR	E-P	IHSI	02/08/89	C
65	KR-2-45	28	RECIR	P-E	IHSI	02/15/85	C
66	GR 2-53	28	RECIR	SE-P	IHSI	02/13/89	E
67	KR-2-14	22	RECIR	P-SOL	IHSI	02/27/85	E
68	GR 2-18	22	RECIR	X-P	IHSI	03/06/85	C
69	KR-2-20	22	RECIR	P-SOL	IHSI	10/27/86	C
70	KR-2-15	22	RECIR	P-C	IHSI	02/27/85	C
71	KR-2-35	22	RECIR	P-SOL	IHSI	04/08/85	C
72	KR 2-37	22	RECIR	P-C	IHSI	04/02/85	E
73	KR-2 36	22	RECIR	P-SOL	IHSI	04/08/85	E
74	GR-2-44	22	RECIR	X-P	IHSI	02/11/89	C
75	KR-2-34	22	RECIR	X-P	IHSI	03/06/85	C
76	KR-2-33	22	RECIR	X-R	IHSI	10/23/86	C
77	GR-2-51	22	RECIR	P-V	IHSI	02/28/85	C
78	KR-2-41	22	RECIR	P-SOL	IHSI	02/27/85	E
79	KR 2-42	22	RECIR	P-SOL	IHSI	10/20/86	C
80	GR-2-25	22	RECIR	P-V	IHSI	10/25/86	C
81	GR-2 52	22	RECIR	V-P	IHSI	02/10/89	C
82	GR 2 26	22	RECIR	V-P	IHSI	02/10/89	C
83	KR-2-19	22	RECIR	P-SOL	IHSI	10/20/86	C
84	KR-2 12	22	RECIR	X-P	IHSI	10/26/86	C
85	KR-2-13	22	RECIR	P-SOL	IHSI	10/24/86	C
86	KR-2-11	22	RECIR	X-R	IHSI	10/22/86	C
87	2RC5	12	RECIR	P-E	REPLACED + IHSI	07/30/87	A
88	2RD6	12	RECIR	P-SE	REPLACED + IHSI	08/24/87	A
89	2RD5	12	RECIR	P-E	REPLACED + IHSI	07/31/87	A
90	GR-2-45	12	RECIR	SOL-P	IHSI+OVERLAY	02/24/89	E

TABLE 1
UNIT-2 WELDMENTS -
IGSCC INSPECTION AND MITGATION
SUMMARY

	WELD ID NUMBER	PIPE SIZE	SYSTEM	PIPING CONFIG	IGSCC MITIGATION	DATE OF POST IHSI EXAMINATION	NUREG CATEGORY
91	2RE5	12	RECIR	P-E	REPLACED + IHSI	07/31/87	A
92	2RK5	12	RECIR	P-3	REPLACED + IHSI	07/28/87	A
93	GR-2-41	12	RECIR	R-P	IHSI	02/25/89	C
94	GR-2-48	12	RECIR	SOL-P	IHSI	02/26/89	C
95	2RE6	12	RECIR	P-SE	REPLACED + IHSI	08/24/87	A
96	2RK6	12	RECIR	P-SE	REPLACED + IHSI	08/24/87	A
97	2RH6	12	RECIR	P-SE	REPLACED + IHSI	08/23/87	A
98	2RH5	12	RECIR	P-E	REPLACED + IHSI	07/29/87	A
99	GR-2-38	12	RECIR	SOL-P	IHSI	02/25/89	C
100	2RC6	12	RECIR	P-SE	REPLACED + IHSI	08/24/87	A
101	2RB5	12	RECIR	P-E	REPLACED + IHSI	07/30/87	A
102	GR-2-35	12	RECIR	SOL-P	IHSI	02/26/89	C
103	2RA5	12	RECIR	P-E	REPLACED + IHSI	07/30/87	A
104	2RB6	12	RECIR	P-SE	REPLACED + IHSI	08/24/87	A
105	GR-2-22	12	RECIR	SOL-P	IHSI	02/26/89	C
106	2RF5	12	RECIR	P-E	REPLACED + IHSI	07/29/87	A
107	2RA6	12	RECIR	P-SE	REPLACED + IHSI	08/24/87	A
108	GR-2-19	12	RECIR	SOL-P	IHSI	02/25/89	C
109	2RG5	12	RECIR	P-E	REPLACED + IHSI	07/29/87	A
110	2RF6	12	RECIR	SE-P	REPLACED + IHSI	08/24/87	A
111	GR-2-12	12	RECIR	SOL-P	IHSI	02/26/85	C
112	2RA1	12	RECIR	N-SE	REPLACED + IHSI	08/25/87	A
113	2RB1	12	RECIR	N-SE	REPLACED + IHSI	08/18/87	A
114	2RC1	12	RECIR	N-SE	REPLACED + IHSI	08/23/87	A
115	2RD1	12	RECIR	N-SE	REPLACED + IHSI	08/19/87	A
116	2RE1	12	RECIR	N-SE	REPLACED + IHSI	08/24/87	A
117	2RF1	12	RECIR	N-SE	REPLACED + IHSI	08/24/87	A
118	2RG1	12	RECIR	N-SE	REPLACED + IHSI	08/25/87	A
119	GR-2-09	12	RECIR	SOL-P	IHSI	02/26/85	C
120	2RJ6	12	RECIR	P-SE	REPLACED + IHSI	08/23/87	A
121	2RJ5	12	RECIR	P-E	REPLACED + IHSI	07/29/87	A
122	2RH1	12	RECIR	N-SE	REPLACED + IHSI	08/25/87	A
123	2RG6	12	RECIR	P-SE	REPLACED + IHSI	08/24/87	A
124	GR-2-15	12	RECIR	R-P	IHSI + OVERLAY	/ /	E
125	2RK1	12	RECIR	N-SE	REPLACED + IHSI	08/29/87	A
126	2RJ1	12	RECIR	N-SE	REPLACED + IHSI	08/31/87	A
127	DRHR-2-3B	24	RHR	P-P	NONE	/ /	G
128	DRHR-2-13B	24	RHR	P-P	NONE	/ /	G
129	DRHR-2-12	24	RHR	P-V	NONE	/ /	G
130	DRHR-2-3	24	RHR	P-V	NONE	/ /	G
131	DSRHR-2-5A	24	RHR	E-P	IHSI	05/31/85	C
132	DSRHR-2-5	24	RHR	E-P	IHSI	04/19/85	C
133	DSRHR-2-4A	24	RHR	E-E	IHSI	02/15/89	C
134	DRHR-2-9	24	RHR	T-P	IHSI	02/15/89	E
135	DSRHR-2-2	24	RHR	E-P	IHSI	02/15/89	C

TABLE 1
- UNIT-2 WELDMENTS -
IGSCC INSPECTION AND MITGATION
SUMMARY

	WELD ID NUMBER	PIPE SIZE	SYSTEM	PIPING CONFIG	IGSCC MITIGATION	DATE OF POST IHSI EXAMINATION	NUREG CATEGORY
136	DRHR-2-14	24	RHR	P-E	IHSI	02/23/89	C
137	DRHR-2-13	24	RHR	E-P	IHSI	02/15/89	C
138	DSRHR-2-1	24	RHR	E-P	IHSI	02/15/89	C
139	DSRHR-2-4	24	RHR	E-P	IHSI	03/27/85	C
140	DRHR-2-15	24	RHR	V-P	IHSI	02/24/89	C
141	DRHR-2-7	24	RHR	V-P	IHSI	02/15/89	C
142	DRHR-2-5	24	RHR	E-V	IHSI	02/16/89	C
143	DSRHR-2-3	24	RHR	P-P	IHSI	02/22/89	C
144	DRHR-2-6	24	RHR	V-P	IHSI	04/19/85	C
145	DRHR-2-17	24	RHR	V-P	IHSI	04/10/85	C
146	DRHR-2-4	24	RHR	E-P	IHSI	04/12/85	C
147	DRHR-2-18	24	RHR	T-P	IHSI	02/06/89	C
148	DSRHR-2-6	24	RHR	P-P	IHSI	04/12/85	C
149	DRHR-2-16	24	RHR	V-P	IHSI	02/01/89	C
150	DSRHR-2-7	24	RHR	E-P	IHSI	02/01/89	C
151	DRHR-2-8	24	RHR	V-P	IHSI	02/11/89	C
152	DRHR-2-11	24	RHR	P-V	NONE	/ /	A
153	DRHR-2-2	24	RHR	P-V	NONE	/ /	A
154	TRHR-2-191	20	RHR	V-P	NONE	/ /	A
155	DSRHR-2-9	20	RHR	E-P	IHSI	04/12/85	C
156	DRHR-2-21	20	RHR	V-E	IHSI	02/15/89	C
157	DRHR-2-19	20	RHR	T-P	IHSI	02/16/89	C
158	DSRHR-2-10	20	RHR	E-P	IHSI	02/20/89	C
159	DSRHR-2-8	20	RHR	SOL-P	IHSI	04/11/85	C
160	DRHR-2-22	20	RHR	V-P	IHSI	02/24/89	E
161	DSRHR-2-11	20	RHR	E-P	IHSI	02/22/89	C
162	DRHR-2-23	20	RHR	V-P	IHSI	02/20/89	C
163	DSRWC-2-4	6	RWCU	P-E	IHSI + OVERLAY	02/25/89	E
164	DSRWC-2-5	6	RWCU	P-E	IHSI + OVERLAY	05/22/87	E
165	DSRWC-2-6	6	RWCU	P-E	IHSI	02/24/89	C
166	DRWC-2-7B	6	RWCU	P-P	HSW	/ /	A
167	DSRWC-2-1A	6	RWCU	P-3	IHSI	11/06/86	C
168	DRWC-2-4B	6	RWCU	P-P	HSW	/ /	A
169	DRWC-2-4A	6	RWCU	P-P	HSW	/ /	A
170	DRWC-2-4Y	6	RWCU	P-E	HSW	/ /	A
171	DRWC-2-5A	6	RWCU	P-FH	IHSI	03/29/85	C
172	DRWC-2-5B	6	RWCU	V-P	IHSI	11/09/86	C
173	DSRWC-2-3	6	RWCU	P-E	IHSI + OVERLAY	02/26/89	E
174	DSRWC-2-2	6	RWCU	P-E	IHSI	01/25/85	C
175	DSRWC-2-1	6	RWCU	E-P	IHSI	01/25/85	C
176	DRWC-2-3	6	RWCU	P-V	IHSI	11/06/86	C
177	DRWC-2-2	6	RWCU	V-3	IHSI	11/06/86	C
178	DRWC-2-1	6	RWCU	P-V	IHSI	01/25/85	C
179	DRWC-2-1A	6	RWCU	V-P	IHSI	02/24/89	C
180	DRWC-2-7A	6	RWCU	P-P	HSW	/ /	A

TABLE 1
UNIT-2 WELDMENTS -
IGSCC INSPECTION AND MITIGATION
SUMMARY

WELD ID NUMBER	PIPE SIZE	SYSTEM	PIPING CONFIG	IGSCC MITIGATION	DATE OF POST IHSI EXAMINATION	NUREG CATEGORY
181 DRWC-?	6	RWCU	P-P	NONE	/ /	G
182 DSRWC-2-7X	6	RWCU	P-E	HSW	/ /	A
*** Total ***						
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