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SUBJECT: Suppls 920108 response to SER on GL 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," consisting of results of UT of 24 nozzle to safe-end welds. Table listing insp schedule for Category D exams completed encl.

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October 16, 1992  
G02-92-241

Docket No. 50-397

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

Gentlemen:

Subject: WNP-2, OPERATING LICENSE NPF-21  
RESPONSE TO GENERIC LETTER 88-01

- References: 1) Letter G02-92-004, dated January 8, 1992, GC Sorensen (SS) to NRC, "Response to NRC SER on Generic Letter 88-01 (TAC No. 169161)"
- 2) Generic Letter 88-01, dated January 25, 1988 "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping"

In Reference 1) the Supply System committed to providing the results of the ultrasonic examination (UT) of 24 nozzle to safe-end welds. Additionally, after evaluation of the UT results and the occupational exposure received during those examinations, the Supply System committed to propose an alternate schedule for future examinations for the Category D and G welds defined in GL 88-01 (Reference 2).

Nozzle to Safe-End UT Examination Results

The Supply System committed to examining 24 of the 25 nozzle to safe-end welds, with Inconel 182 buttering, during the 1992 refueling outage (R7). All 25 of the welds were examined during the outage using the General Electric (GE) SMART 2000 automated system. No reportable indications were detected and all 25 of the welds are now classified as Category D. (see Attachment 1)

Proposed Sample Frequency

Other outage activities included the full core off load into the spent fuel pool and chemical decontamination of the recirculation pump discharge piping and water flushing of the reactor vessel nozzles to lower exposure levels in the containment. The original exposure estimate for the UT of the nozzle to safe-end welds was approximately 250 man-rem. A review of the data obtained from the outage, indicates that the task resulted in 57 man-rem of occupational exposure. Although off loading the core probably did not contribute significantly to this reduction, it is estimated that the water flushing provided approximately a 2.5 reduction factor and that the chemical decontamination provided approximately a

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4 reduction factor in occupational exposure. While the exposure received was significantly lower than initial estimates, these levels will potentially add at least 200 man-rem to each 10 year ISI inspection interval based upon the required two year interval. Also, as plant operating time increases, the estimated exposures will increase. In order to provide assurance that reactor coolant pressure boundary is maintained, while maintaining exposure as low as practicable, the Supply System is proposing an alternate inspection schedule. The Generic Letter requires that all Category D welds be inspected "every two refueling cycles". WNP-2 is on a 12-month refuel cycle, so these welds would be examined every 2 years. WNP-2 operates on a 12 month refueling cycle in order to coordinate the shutdown with the highest availability of hydro electric power. The two year requirement places an additional hardship on WNP-2 when compared to other BWR plants that operate on a 18 or 24 month refuel cycle. The Supply System is proposing that Category D weld inspection be conducted every three years at WNP-2, as opposed to every two years. The proposed schedule would provide some reduction in the occupation exposure for each ISI 10 year interval and still provide WNP-2 with the same level of assurance of weld integrity as other BWR plants. This frequency would meet the intent of the Generic Letter. There is no technical difference in the installation of IGSCC sensitive material or in the manner in which WNP-2 is operated that would require or that would justify the more frequent UT, especially when the increased occupational exposure is taken into consideration. Table 1 of the Generic Letter is the summary of inspection schedules for BWR piping weldments. Some of the inspection intervals are specified in terms of years, while others are in refueling cycle intervals. The Supply System, for consistency, is requesting that all intervals specified as "every two refueling cycles" be accepted as "every three years" for WNP-2 applications.

To finalize ISI examination plans for the next refueling outage, scheduled for April 1993, your review and approval of the 3-year examination frequency is requested in January 1993. Upon approval of the proposed schedule, the Supply System will submit the remaining Technical Specification change request for the ASME Surveillance Section 4.0.5, incorporating the Generic Letter and the NRC approved inspection frequency changes.

The Supply System is continuing in the evaluation of stress improvement techniques for the nozzle to safe-end welds. One proposed plan includes Induction Heating Stress Improvement (IHSI) treatment of nozzle to safe-end welds. This would be accomplished when an IHSI contractor is on site to support the replacement of the reactor recirculation pump flow control valves (FCVs) and surrounding piping. The removal of the FCVs is a portion of the project to install adjustable speed drive recirculation pumps. However, at this time no plans have been finalized.

Sincerely,



G. C. Sorensen, Manager  
Regulatory Programs (Mail Drop 280)

MGE/bk  
Attachments

cc: JB Martin - NRC RV  
NS Reynolds - Winston & Strawn  
JW Clifford - NRC

DL Williams - BPA/399  
NRC Site Inspector - 901A

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	TABLE 1															
2	INSPECTION SCHEDULE CATEGORY D															
3	EXAMINATIONS COMPLETED										SCHEDULED (3)					
4	CAT.	ISI IDENT. NO.	Drawing	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13
5	D(1)	10LPCS(1)-4	LPCS-101-2		1					1	1			1		
6	D(1,2)	10HPCS(1)-4	HPCS-101-2							1		1			1	
7	D(1)	12LPCI(1)A-6	RHR-101		1					1		1			1	
8	D(1,2)	12LPCI(1)B-6	RHR-102							1		1			1	
9	D(1,2)	12LPCI(1)C-6	RHR-103							1			1			1
10	D(1,2)	4JP(NZ)A-1	RPV-101							1		1			1	
11	D(1,2)	4JP(NZ)B-1	RPV-101							1			1			1
12	D(1)	12RFW(1)AC-13	RFW-101-3	1						1	1			1		
13	D(1)	12RFW(1)AB-11	RFW-101-4		1					1		1			1	
14	D(1)	12RFW(1)AA-11	RFW-101-5			1				1		1			1	
15	D(1)	12RFW(1)BD-11	RFW-102-3				1			1			1			1
16	D(1)	12RFW(1)BE-11	RFW-102-4					1		1	1			1		
17	D(1)	12RFW(1)BF-14	RFW-102-5						1	1			1			1
18	D(1,2)	12RRC(1)-N2E-6	RRC-101-4							1	1			1		
19	D(1,2)	12RRC(1)-N2D-6	RRC-101-5							1		1			1	
20	D(1,2)	12RRC(1)-N2C-6	RRC-101-6							1		1			1	
21	D(1,2)	12RRC(1)-N2B-6	RRC-101-7							1			1			1
22	D(1,2)	12RRC(1)-N2A-6	RRC-101-8							1	1			1		
23	D(1,2)	12RRC(1)-N2K-6	RRC-102-4							1	1			1		
24	D(1,2)	12RRC(1)-N2J-6	RRC-102-5							1			1			1
25	D(1,2)	12RRC(1)-N2H-6	RRC-102-6							1			1			1
26	D(1,2)	12RRC(1)-N2G-6	RRC-102-7							1	1			1		
27	D(1,2)	12RRC(1)-N2F-6	RRC-102-8							1			1			1
28	D(1,2)	24RRC(2)A-1	RRC-101-1							1	1			1		
29	D(1,2)	24RRC(2)B-1	RRC-102-1							1		1			1	
30		TOTAL	25	1	3	1	1	1	1	25	8	9	8	8	9	8
31																
32	NOTES															
33	1 Added to GL 88-01 scope at R7															
34	2 Reclassified as category D after R7 examination															
35	3 The Supply System may modify this schedule. However, each weld will be examined once every 3 years.															
36																

1. The first part of the document is a header section containing the following information:
 

- Page No. 1
- Date: 10/10/2010
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STATE OF WASHINGTON)  
COUNTY OF BENTON )

Subject: Response to Generic Letter 88-01

I, A. G. HOSLER, being duly sworn, subscribe to and say that I am the Manager, WNP-2 Licensing for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief the statements made in it are true.

DATE OCT 16, 1992

A. G. Hosler  
A. G. Hosler, Manager  
WNP-2 Licensing

On this date personally appeared before me A. G. HOSLER, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 16 day of October 1992.

Brian Kaska  
Notary Public in and for the  
STATE OF WASHINGTON

Residing at Kennewick, Washington

My Commission Expires April 28, 1994

