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March 13, 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: LaSalle County Station Unit 1
Augmented Inservice Inspection Plan
NRC Docket No. 50-373

References (a): D. G. Eisenhut letter to All Licensees dated April 19, 1984 (G.L. 84-11).

(b): B. Rybak letter to H. R. Denton dated June 4, 1984 - Response to G.L. 84-11.

(c): H. L. Massin letter to H. R. Denton dated October 2, 1985.

(d): ASME Boiler and Pressure Vessel Code Section XI, 1983 Edition with Addenda through Winter 1983.

(e): ASME Section XI Task Group on Pipe Flaw Evaluation Document, "Proposed IWB-3640 Change for Evaluation of Flux Weldments, "Presented at March 1986 ASME Meeting, Palm Springs, California.

(f): USNRC Document, "Safety Evaluation by the Office of Nuclear Reactor Regulation - Inspection and Repair of Reactor Coolant System Piping at Quad Cities Unit 2," Attached to JA Zwolinski letter to DL Farrar, dated January 7, 1986.

Dear Mr. Denton:

As requested by Dr. A. Bournia during our February 7, 1986 telephone conversation, we are submitting a report describing the status of IHSI and UT Examinations currently underway at LaSalle during the Unit 1 first refueling outage.

IHSI has been performed on 126 susceptible welds by NUTECH Engineers, Inc. Six Reactor Recirculation, RHR and Clean-up System welds could not be treated due to major physical interferences. In addition, six jet pump instrumentation welds were not treated as flow could not be established through these lines. Attachment 1 summarizes weld status.

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Inservice inspection of stainless steel welds susceptible to IGSCC has just been completed at LaSalle Unit 1. In Reference (c), a minimum sample of 33 welds was presented for compliance with Generic Letter 84-11. The actual number of welds to be UT examined during the first refueling outage is related to the performance of IHSI, and it is presently projected that 126 of the 138 susceptible welds will be examined. The weld counts included in Attachment 1 supercede those in Reference (c); one weld originally believed to have been Solution Annealed has been transfered to the list of susceptible welds. The present table also provides information on the welds inspected as of this date, along with the number of welds inspected by the automated Ultra Image III inspection system.

The final evaluation of indications were made by UT personnel who were requalified for detection and discrimination of IGSCC by the current EPRI program. As of March 13, 1986, inspection of welds has been completed with a breakdown by system and size shown in Attachment 1. Two 12 inch recirculation system riser welds were evaluated to have circumferential crack-like linear indications. The indications were conservatively evaluated as being IGSCC. The size (length and depth) and circumferential location of these indications are shown in Attachment 2. The reported depths were determined by a CECo Level III UT examiner qualified by EPRI training and examination for depth sizing. The depth sizing methodology included dB drop, crack tip diffraction techniques and the use of the SLIC 40 transducer. UT examination of IHSI treated welds has been completed and no additional crack-like linear indications have been found.

Although the table shows a sample for compliance with Generic Letter 84-11 (Reference (a)), the sequence of UT examinations was closely related to the performance of IHSI. As such, there was no initial UT sample of 33 welds distributed in accordance with the reference plan on which to access a need for sample expansion (Reference (b)). The two welds with crack-like indications were identified within the first 33 welds examined, most of which were 12" riser welds. Since all of the 12" riser welds have been examined, and the 126 welds examined to date greatly exceeds a doubling of an original 33 weld sample, we conclude that the requirements of Generic letter 84-11 on sample expansion have been satisfied.

As discussed above, Welds 1-RR-1001-10 and 1-RR-1005-27A were dispositioned as having crack-like linear indications. These were then conservatively evaluated by our contractor (NUTECH) as IGSCC flaws. The evaluation consisted of the following.

- Determination of the end of the end-of-cycle crack growth using a conservative crack growth relationship.

- Evaluation against the requirements of Generic Letter 84-11 (Reference (a)) and ASME Section XI Table IWB-3641-1 (Reference (d))

- Evaluation against the requirements of proposed ASME Section XI Table IWB-3641-5 (Reference (e)) and the recently issued Safety Evaluation Report for Quad Cities Unit 2 (Reference (f))

Attachment (2) provides the geometric details and primary stress combinations required to perform the evaluation.

The results presented in Attachment (2) for the crack growth analyses and the flawed pipe evaluations demonstrate that the original design margins of safety inherent in the Code for flawed welds have not been degraded. In fact, the analysis indicates that the IHSI-mitigated flaws are not expected to grow during the next fuel cycle, or indeed, for the balance of plant life.

Based on the above conclusions of no crack growth, it is our intention to run one fuel cycle; upon its completion, the indications will again be examined by means of an automated system to determine if any changes have occurred in these indications.

If you have any further questions regarding this matter, please contact this office.

One signed original and ten (10) copies of this transmittal and its attachments are provided for your use.

Very truly yours,

C. M. Allen
Nuclear Licensing Administrator

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Attachments

cc: Region III Inspector - LSCS
Dr. A. Bournia - NRR

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ATTACHMENT 1

LASALLE UNIT 1 WELD INSPECTION STATUS

	Reactor Recirculating			RHR System		Reactor Recirc. RWCU Jet Pump Instr.	Total
Pipe Size	24"	16"	12"	20"	12"	4"	
Total Welds	46*	16	60*	11	17	30	180
Solution Annealed Welds	6	8	20	0	2	6	42
Susceptible Stainless Welds	40	8	40	11	15	24	138
84-11 Minimum Sample	8	4	8	4	4	5	33
Actual Sample	38	8	40	11	14	15	126
Auto UT Welds	1	0	40	0	0	0	41
IHSI Treated	38	8	40	11	14	15	126

* Includes Nozzle-to-safe end welds. 24" outlet safe ends are type 304SS; 12" inlet safe ends are type 316L with inconel 182 butter on nozzle side.

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