



Commonwealth Edison

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May 19, 1983

Director of Nuclear Reactor Regulation
Attention: Mr. Gus C. Lainas
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: LaSalle County Station Units 1 & 2
Correction to Attachment for Response
to Generic Letter 81-04
NRC Docket Nos. 50-373 and 50-374

Reference (a): C.W. Schroeder letter to G.C. Lainas
dated December 28, 1982
(NUREG-0313 Rev. 1 Response)

Dear Sir:

The enclosure to subject reference letter was transmitted by Reference (a). It was provided as a response to Generic Letter 81-04. The enclosure addressed the measures taken to minimize IGSCC. Both general actions and specific actions were enumerated for LaSalle. Specific Action Number 10 stated that, "Stress rule indices have been determined for all Class I and II stainless piping on Unit 1. Forty-two welds in Class I piping were found to have high indices. . . On Unit 2, twelve welds in Class I piping were found to have high indices. . ."

These statements should be modified to read, "Stress ratios have been determined for all Class I and II stainless piping on Unit 1. Forty-two welds in Class I piping were found to have high ratios. . . On Unit 2, twelve welds in Class I piping were found to have high ratios. . ."

Both the context and intent of other parts of these statements remain valid. This correction is made to assure the Commission that the ratios of actual computed stress to allowable stress (stress ratio) was used to designate welds for inclusion in the ISI program rather than GE stress rule indices.

We apologize for any inconvenience that this may have caused you.

Enclosed for your use are one (1) signed original and forty (40) copies of this letter and the attachment.

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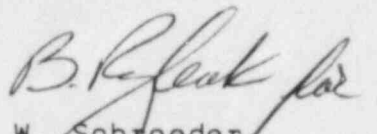
Director of NRR

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If there are any further questions in this matter, please contact this office.

Very truly yours,



C. W. Schroeder
Nuclear Licensing Administrator

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Attachment

cc: Region III Inspector - LSCS

6599N

Enclosure

Beginning with the 1974 discovery of cracks in stainless steel piping, Commonwealth Edison's LaSalle Engineering Group has actively improved the LaSalle design and equipment installation to reduce intergranular stress corrosion cracking (IGSCC). Both general and specific corrective actions are noted here to indicate the scope of changes at LaSalle since stainless steel cracking became an issue.

General Actions Pursued:

1. Type 304 stainless steel has been replaced where cracking conditions have been found or are expected based upon the three contributory causes: overstress, sensitization, and high oxygen content in semi-stagnant flows. Replacement materials were 304L, 316L, 316K or carbon steel in some places. Crevices and stress amplification designs were avoided.
2. Post fabrication solution annealing was used on shop fabricated assemblies and piping spools. Sensitization temperatures (800-1500°F) were avoided.
3. Field welding utilized controlled heat inputs to limit the heat affected zone. Controlled deposition of weld cladding was needed in safe-end replacements.
4. Grinding was not allowed on reactor coolant wetted surfaces of pressure boundary equipment.
5. Stagnant lines and certain NRC "target lines" were evaluated for possible removal or rerouting.
6. Where possible cold water sources (CST) were avoided and piping was rerouted to decrease thermal stresses.
7. Where possible, highly oxygenated water was avoided when low oxygen-content water could be used.

Specific Actions Completed:

1. The core spray lines, LPCI piping, and RWCU piping have been changed from stainless steel type 304 to carbon steel.
2. The core spray safe-ends and transition spools have been replaced with carbon steel components.
3. The CRD return line has been eliminated; nozzle N-10 capped; CRD pressure equalization equipment installed; and carbon steel eliminated from CRD service lines.

4. CRD drive water is now taken from the condensate system for a low oxygen source (14-200 PPB) of water, instead of the condensate storage tank.
5. The collet retainer tube has been redesigned with colmonoy hardfacing; and the index tube and piston tube now contain XM-19 alloy. (Stainless)
6. The recirculation system bypass lines (10 inch) have been eliminated.
7. The jet pump riser assemblies were solution heat treated after assembly as were the entrance elbows and pipe spools.
8. The feedwater sparger has been redesigned with new spray nozzles which decrease thermal cycle stresses.
9. A leak detection system has been designed, installed and tested to the criteria defined in Regulatory Guide 1.45.
10. Stress ratios have been determined for all Class I and II stainless piping on Unit 1. Forty-two welds in Class I piping were found to have high ratios and usage factors. These welds will have augmented ISI applied to them. On Unit 2 twelve welds in Class I piping were found to have high ratios and usage factors; these are included in the Unit 2 ISI program.
11. Surveys have been completed on the recirc system welds for evaluation of the feasibility of performing IHSI.
12. Proposals are being evaluated, and negotiations are in progress for the application of induction heating stress improvement program to the Unit 2 recirc system piping. Our present goal is to have this Unit 2 work completed before Unit 2 start-up with Unit 1 similarly treated during a future outage.

The above information updates the activities to reduce the effects of IGSCC at LaSalle. Most of this information has been submitted during the licensing process in such documents as FSAR Sections 5.2.3.4, 7.1.7.6, 11.6, Q 121.8 and in our ISI Plans.

Based on the above submittals and described actions, Commonwealth Edison believes LaSalle is in compliance with NUREG-0313, Rev. 1 and no further action is required.