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ELECTRIC ENGINEERING
DEPARTMENT

February 5, 1981

Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attn: Mr. Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Subject: Calvert Cliffs Nuclear Power Plant
Unit No. 2, Docket No. 50-318
Reactor Coolant Pump Studs

Gentlemen:

My letter of November 13, 1980, summarized our findings and actions on Unit No. 1 Reactor Coolant Pump (RCP) studs pursuant to IE Information Notice 80-27. Following is a summary of our investigation and findings to date concerning the Unit No. 2 RCP studs and the corrective measures we are planning.

Visual examination of all four Unit 2 RCP studs has been completed. Of the total of 64 studs, four studs on RCP No. 22-A and eight studs on RCP No. 22-B showed signs of corrosion. The area of the studs exhibiting corrosion is the surface exposed closest to the pump case extending up as high as two inches. Some studs show corrosion extending into the pump case thread area as much as 0.25 inch.

ASME Code Section XI 1974 Edition with Addenda through Summer 1975, Article IWB-3000, "Standards for Examination Evaluations", Paragraph IWB-3515, "Standards for Examination Category B-G-1, Pressure-Retaining Bolting Two Inches and Larger in Diameter", details the standard allowable indications for surface examinations. This states that nonaxial indications shall not exceed 0.25 inches in length and axial indications shall not exceed 1.00 inch in length. Based on this criteria, all twelve studs exhibiting corrosion are considered unacceptable by the Code and will be replaced with new studs.

In general, the stud corrosion found on Unit 2 RCP's was not as extensive as that found on Unit 1. As on Unit 1, the Unit 2 pumps show no signs of gasket failure between the pump case and driver mount. The cause of stud corrosion is believed to be a combination of reactor coolant pump

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February 5, 1981

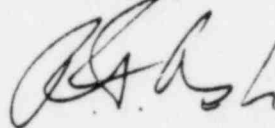
instrument line failures, poor control of reactor coolant during venting operations, and instrument line valve packing leakage, all coupled with poor housekeeping around the pump case area. Improved pump venting techniques, increased inspection frequencies, improved housekeeping techniques, and seal line modifications are expected to eliminate the stud deterioration problem.

The following studs were affected and will be replaced during the current outage:

<u>RCP No. 22-A</u> <u>Stud #</u>	<u>RCP No. 22-B</u> <u>Stud #</u>
4	1
5	2
6	3
7	4
	5
	6
	13
	14

Should difficulties arise in replacing any of the studs, further analysis will, of course, be conducted to determine acceptable alternatives to stud replacement.

Sincerely,



R. F. Ash
Chief Nuclear Engineer

ART/smn

cc: J. A. Biddison, Esquire
G. F. Trowbridge, Esquire
Messrs. E. L. Conner, Jr.
R. E. Architzel