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ARTHUR E. LUNDVALL, JR.
VICE PRESIDENT
SUPPLY

March 6, 1984

U.S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

ATTENTION: Mr. Thomas E. Murley, Director

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 1; Docket No. 50-317
1983 Results of Steam Generator Eddy Current Examinations

REFERENCE: (a) Unit 1 Technical Specification 4.4.5.5

ENCLOSURES: (1) Unit 1 Eddy Current Inspection of #11 & #12 Steam Generators,
Final Report - Prepared by Zetec, Incorporated, October 1983
(2) Combustion Engineering Series 67 Steam Generator Tube Sheet
Pattern
(3) Tubes Plugged #11 & #12 Steam Generators

Gentlemen:

Reference (a) requires that we report, on an annual basis, all steam generator tube examinations conducted in the past year, listing the tubes examined, degradation noted, and identity of tubes plugged.

Calvert Cliffs Steam Generators are Series 67 Combustion Engineering units. Tube locations are referenced to the hot leg or cold leg tube sheet as shown in Enclosure (2). The hot leg tube sheet is divided into quadrants #2 (right) and #3 (left) with Line No. 1 down the center. Whereas the cold leg tube sheet is divided into quadrants #1 (left) and #4 (right) with Line No. 1 in the center. Both steam generators at Calvert Cliffs Unit 1 were examined by the multi-frequency eddy current method during 1983. Examinations were conducted in accordance with the requirements specified in reference (a) and Regulatory Guide 1.83. Enclosure (1) lists the tubes examined and the indications found.

During the fall 1983 Unit 1 outage, #11 & #12 steam generators were examined. Tubes were probed from the hot leg side of the generator with full length tube examinations being performed. Service induced degradation was found in #11 & #12 steam generators. The imperfections found were all of a small volume and area nature. The indications were not localized in a particular area of the tube bundle.

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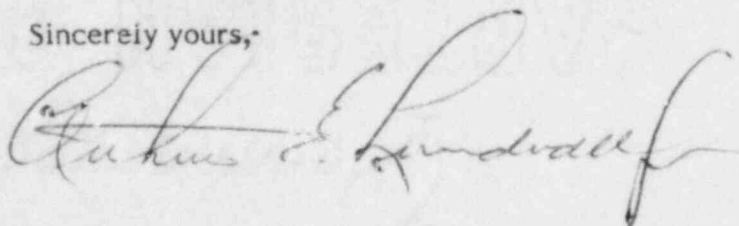
Eddy current results of #11 steam generator showed that of the 1,044 tubes examined, one was defective (imperfection \geq 40% wall loss), 10 were degraded (\geq 20% wall loss), seven had imperfections $<$ 20% wall thickness, and 143 tubes contained service induced denting. In 130 of the 143 dented tubes, the denting occurred at the ninth support on the hot leg side of the tube bundle. Of the 1,044 total tubes examined, 611 were selected from the region where the ninth support exists. The average dent size of the tubes dented in the ninth support of #11 steam generator was .871 mils. All of the dented tubes allowed passage of the eddy current probe.

Eddy current results of #12 steam generator showed that of the 1,048 tubes examined, two were defective, six were degraded, nine had imperfections $<$ 20% wall thickness, and 220 tubes contained service induced denting. In 191 of the 220 dented tubes, the denting occurred at the ninth support on the hot leg side of the tube bundle. Of the 1,048 total tubes examined, 632 were selected from the region where the ninth support exists. The average dent size of the tubes dented in the ninth support of #12 steam generator was 2.36 mils. All of the dented tubes allowed passage of the eddy current probe.

As stated above, one tube in #11 steam generator and two tubes in #12 steam generator contained defects which exceeded the plugging limit of 40% loss of nominal wall thickness. These tubes were removed from service by plugging each end with mechanical tube plugs. In addition, portions of two steam generator tubes which contained eddy current indications of less than 40% wall loss were removed from #11 steam generator for detailed metallurgical examination. These tubes were also removed from service by plugging the hot and cold leg tube ends with mechanical tube plugs. Enclosure (3) lists the tubes plugged during the fall 1983 Unit 1 outage along with the reason for plugging the tube.

Should you have further questions regarding this matter, please do not hesitate to contact us.

Sincerely yours,



AEL/KMH/gla

Enclosures

cc: J. A. Biddison, Esquire	(w/o Enclosure)
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