BALTIMORE GAS AND ELECTRIC

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ARTHUR E. LUNDVALL, JR.
VICE PRESIDENT
SUPPLY

May 21, 1982

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

ATTENTION: Mr. R. A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 1, Docket No. 50-317
Modified CEA Guide Tube Evaluation Program

REFERENCE: R. A. Clark to A. E. Lundvall, Jr., letter, dated December 12, 1980, Amendment No. 48 for Calvert Cliffs Nuclear Power Plant Unit No. 1

Gentlemen:

The referenced letter issued the safety evaluation documenting the acceptability of Cycle 5 operations of Calvert Cliffs Nuclear Power Plant No. 1. This amendment authorized operation with modified CEA guide tubes, but noted the need for further evaluation, including an inspection at the end of Cycle 5. The inspections and preliminary results are detailed in the enclosure.

Very truly yours,

BALTIMORE GAS AND ELECTRIC COMPANY

A. E. Lundvall, Jr.
Vice President - Supply

AEL/JAM/djw

Enclosure: Inspection Program for Calvert Cliffs 1 End of Cycle 5

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ENCLOSURE 1

INSPECTION PROGRAM FOR CALVERT CLIFFS 1 END OF CYCLE 5

A. Reduced Flow Fuel Assemblies

During Unit 1, Cycle 5, 32 fuel assemblies with reduced flow design were located under CEAs.[1] All 32 of these reduced flow fuel assemblies were inspected at end of Cycle 5 for guide tube wear with a bobbin probe. Of the 160 guide tubes inspected only nine guide tubes showed evidence of wear. These nine guide tubes were located in five different fuel assemblies. The guide tubes that showed wear were tested with an azimuthal probe to further characterize the wear. The wear that was observed on the nine guide tubes was minor and does not affect the integrity of the guide tube.

B. CEA Surveillance

There was no CEA surveillance at end of Cycle 5, Unit 1. Previous CEA surveillances performed on Unit 1 at the end of Cycles 3 and 4[2] as well as on Unit 2 at the end of Cycles 2 and 3[3] indicate that the degree and rate of CEA wear had been a very gradual phenomenon and not an immediate concern. As noted in previous CEA inspection reports[2][3] the CEA wear rate will allow acceptable levels of wear for several more cycles. Consequently, to minimize the impact on outage lengths, the amount, and frequency of CEA inspections has been decreased.

C. Operational Restrictions on CEA Movement

For Cycle 4 operation, CEA movement was restricted at primary system temperatures below 400°F. This restriction was necessary in light of prior indications of some undersized crimps (i.e., the bond which holds the sleeve inserts into the guide tubes). This restriction was removed for Cycle 5 and is not required for Cycle 6. All of the Batch G and Batch H assemblies have the new style crimps and there are only eight Batch F assemblies under CEAs for Cycle 6. Four of the Batch F assemblies have the reduced flow design and showed no wear after one cycle under CEAs. The other four have sleeves with the new style crimp.

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(1) R. A. Clark to A. E. Lundvall, Jr. letter, dated 12/12/80
(2) A. E. Lundvall, Jr. to R. A. Clark letter, dated 1/21/81 (CEN-146(B)-P)
(3) A. E. Lundvall, Jr. to R. A. Clark letter, dated 4/10/81, (CEN-154(B)-P)