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January 31, 1995

U. S. Nuclear Regulatory Commission  
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318  
Westinghouse Alloy 600 Steam Generator Mechanical Plugs Corrosion Algorithm  
Revision

REFERENCE: (a) Letter from Mr. N. Liparulo (Westinghouse) to NRC Document Control Desk, dated January 25, 1995, Westinghouse Steam Generator Tube Mechanical Plug Corrosion Algorithm Revision  
(b) Letter from Mr. G. C. Creel (BGE) to NRC Document Control Desk, dated August 9, 1991, Response to NRC Bulletin 89-01, Supplement 2, "Failure of Westinghouse Steam Generator Tube Mechanical Plugs"

The following status is provided in response to the NRC staff's request at a meeting held on December 22, 1994, concerning recent field experience with Westinghouse Alloy 600 Thermally Treated (TT) mechanical plugs. This letter serves to provide the staff with our intended response to this latest field data.

#### BACKGROUND

In December 1994, Westinghouse notified us of recent field experience with Alloy 600 TT mechanical plugs that necessitated a revision to the corrosion algorithm presented in WCAP-12244, Revision 3 (Reference 4 of NRC Bulletin No. 89-01, Supplement 2, "Failure of Westinghouse Steam Generator Tube Mechanical Plugs"). Subsequent to that, Westinghouse provided us with the results of the revised algorithm which they issued as Addendum 3 to WCAP-12244, Revision 3 on January 25, 1995 (Reference a). Based on these results, the earliest projected repair date for Calvert Cliffs is 2005 (see Attachment 1). This projected date is unchanged from what we reported in Reference (b) for the remaining plugs. In the event that the revised algorithms reported in Reference (a) are not acceptable to the NRC, the

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1/1 Add: Steve Lamberth  
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original basis for a Justification for Continued Operation provided in WCAP-12244 continues to apply for Calvert Cliffs Nuclear Power Plant until the issue is resolved and appropriate actions can be developed. We believe the issue is being effectively managed by the industry, and that the issue does not pose an immediate safety concern to the health and welfare of the public.

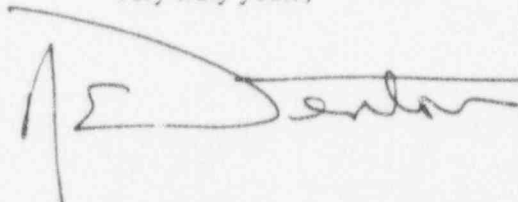
#### CALVERT CLIFFS' CURRENT STATUS

At present, Calvert Cliffs Units 1 and 2 have a total of 138 and 104 installed Westinghouse Alloy 600 TT mechanical plugs, respectively, that have not been repaired. These plugs are all located in the cold legs of the steam generators. Of these, a total of seven plugs (five in Unit 1 and two in Unit 2) are located in rows 1 through 4 where plug top release may lead to tube perforation. All Westinghouse Alloy 600 plugs previously installed in the hot legs of both Units 1 and 2 steam generators have been removed and replaced with Westinghouse Alloy 690 mechanical plugs. Attachment (1) provides the installation date, heat numbers, and projected repair date (from Reference a) for the Westinghouse Alloy 600 mechanical plugs that are currently in service at Calvert Cliffs.

As we committed in Reference (b), we will continue to track Westinghouse Alloy 600 plugs installed in Calvert Cliffs steam generators for repair/replacement. In accordance with Reference (a), we will take remedial action during refueling outages to repair/replace any Alloy 600 plug prior to the end of its estimated lifetime.

Should you have questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,



RED/GT/dlm

Attachment: (1) Westinghouse Alloy 600 Mechanical Tube Plugs Installed in the Steam Generators at Calvert Cliffs Nuclear Power Plant

cc: D. A. Brune, Esquire  
J. E. Silberg, Esquire  
L. B. Marsh, NRC  
D. G. McDonald, Jr., NRC  
T. T. Martin, NRC  
P. R. Wilson, NRC  
R. I. McLean, DNR  
J. H. Walter, PSC  
N. Liparulo, Westinghouse

## ATTACHMENT (1)

### WESTINGHOUSE ALLOY 600 MECHANICAL TUBE PLUGS INSTALLED IN THE STEAM GENERATORS AT CALVERT CLIFFS NUCLEAR POWER PLANT

All Westinghouse (W) mechanical tube plugs previously installed in the hot legs of the Units 1 and 2 steam generators have been removed and replaced with W Alloy 690 mechanical tube plugs.

Summary of locations, installation dates, heat numbers, and projected repair date for the W Alloy 600 mechanical tube plugs that remain installed in the cold legs of the Units 1 and 2 steam generators. The projected dates are from the revised corrosion algorithm (Reference a).

Location	Installation	Number of Plugs	Heat Number	Projected Repair Date
SG 11	06/82	15	2387	2072
	11/83	3	1989	2073
	05/85	6	1989	2075
	05/85	6	2387	2075
	07/85	1	2387	2075
	05/88	42	5222	2008
	06/90	9	6323	2009
		82		
SG 12	06/82	11	2387	2072
	11/83	2	1989	2073
	05/85	7	2387	2075
	07/85	4	2387	2075
	05/88	27	5222	2008
	07/89	1	6323	2009
	09/89	1	6323	2009
	06/90	3	6323	2009
		56		
SG 21	11/82	1	2387	2072
	05/84	4	1989	2074
	10/85	9	2387	2077
	05/87	38	3513	2005
	06/89	12	6323	2009
	07/89	3	6323	2009
		67		
SG 22	11/82	1	2387	2072
	05/84	2	1989	2074
	05/87	20	3513	2005
	10/85	4	2387	2077
	06/89	10	6323	2009
		37		