



Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609

October 22, 1996

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of)	Docket Nos. 50-259
Tennessee Valley Authority)	50-260
)	50-296

**BROWNS FERRY NUCLEAR PLANT (BFN) - GENERIC LETTER (GL) 96-04,
BORAFLEX DEGRADATION IN SPENT FUEL STORAGE RACKS
(TAC NOS. M95921, M95922, M95923)**

This letter is in response to the subject GL. Since TVA does not use Boraflex in the spent fuel storage racks at BFN, no specific actions are required for the GL. However, provided below is a description of the neutron absorber material used in the spent fuel racks at BFN, a brief comparison of the neutron absorber physical characteristics with those of Boraflex, and a summary of the monitoring program for the BFN spent fuel racks.

Boral cermet, rather than Boraflex, is used as the neutron absorber in the spent fuel storage racks at BFN. Boral cermet is a composite of boron carbide dispersed in aluminum and is sandwiched between two thin sheets of aluminum clad to form Boral plates. These Boral plates are then sandwiched between two stainless steel containers which form the fuel storage modules in the high-density fuel storage racks (HDFSR).

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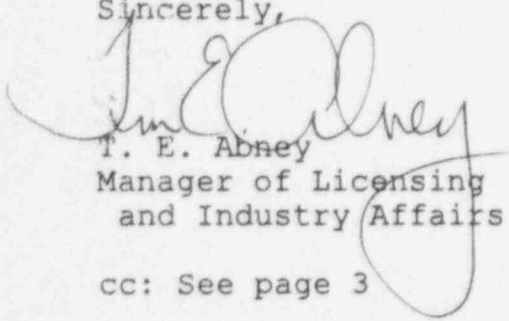
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The physical and chemical properties of Boral cermet and Boraflex are very dissimilar. A cermet type material is a metal-ceramic composite typically characterized by chemical stability and physical durability. Boraflex uses a polymer matrix to retain the neutron absorber (boron carbide) material whereas in Boral, the boron carbide is dispersed in aluminum. The GL indicates this polymer matrix is susceptible to gamma radiation damage which can cause shrinkage of the Boraflex and also can result in a gradual loss of boron carbide via dissolution.

For the purposes of long term monitoring of the HDFSRs, test specimens in the form of Boral coupons were placed in the Unit 3 fuel pool in locations adjacent to spent fuel storage cell locations. The test coupons are of the same metallurgical properties as the HDFSR in terms of thickness, chemistry, finish and temper. These Boral coupons are periodically removed from the fuel pool for testing and are evaluated for corrosion or other degradation of the neutron absorber plates by comparing various physical characteristics of the test coupons to baseline measurements taken when the coupons were installed. Also, a metallurgical engineer examines the coupons for general corrosion, local pitting, and debonding. The test coupon evaluation was last conducted in December 1995 and no evidence of unexpected corrosion or degradation was observed.

If you have further questions on this subject, please telephone me at (205) 729-2636.

Sincerely,


T. E. Abney
Manager of Licensing
and Industry Affairs

cc: See page 3

Subscribed and sworn to before me
on this 22nd day of October 1996.

Barbara A. Blanton
Notary Public
My Commission Expires My Commission Expires 10/20/98

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