Omaha Public Power District
444 South 16th Street Mall
Omaha, Nebraska 68102-2247
402/636-2000

April 28, 1993
LIC-93-0105

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, DC 20555

References:
1. Docket No. 50-285
2. Letter from OPPD (W. G. Gates) to NRC (Document Control Desk) dated December 7, 1992 (LIC-92-340A)
3. Letter from NRC (S. D. Bloom) to OPPD (T. L. Patterson) dated February 4, 1993
4. Letter from OPPD (W. G. Gates) to NRC (Document Control Desk) dated March 19, 1993 (LIC-93-0081)
5. Letter from NRC (S. D. Bloom) to OPPD (T. L. Patterson) dated April 2, 1993

Gentlemen:

SUBJECT: Request for Additional Information Concerning the Fort Calhoun Station Spent Fuel Pool Rerack (TAC No. M85116)

Attached is the Omaha Public Power District (OPPD) response to the subject NRC request (Reference 5). This request concerned the Fort Calhoun Station (FCS) spent fuel storage rack modification proposed in the Reference 2 submittal.

If you have any further questions, please contact me.

Sincerely,

for W. G. Gates
Vice President

WGG/tcm

Attachment

c: LeBoeuf, Lamb, Leiby & MacRae
J. L. Milhoan, NRC Regional Administrator, Region IV
S. D. Bloom, NRC Project Manager
R. P. Mullikin, NRC Senior Resident Inspector

A001
1/1

Attachment
LIC-93-0105

OPPD Response to April 2, 1993 Questions from NRC
on the FCS Spent Fuel Pool Rerack Project

Question 1: What are the dimensions of the offset between the rack wall and the sheath covering the Boral panel, including tolerances? (From presentation 0.080 , ± 0.004".)

Response: In the rack design, the distance between the rack outer cell wall and the inner surface of the sheath is 0.082, +0.005/-0.003". This is consistent with the rounded-off dimensions provided in the OPPD December 7, 1992 presentation to the NRC. The sheath is 0.035" thick.

Question 2: AAR Brooks and Perkins has supplied us with their specification BPS-9000-01, "Item Specification for Boral, a Neutron Shielding Material." The normal dimension for the manufacture of Boral is either 0.177 ± 0.012" or 0.265 ± 0.015" per Specification BPS-9000-01.

In your technical specification amendment request you claim that the Boral is being manufactured to a thickness of 0.075 ± 0.004" and a B^{10} areal density of 0.0151 gm/cm^2 (min 0.014 gm/cm^2).

Note that Specification BPS-9000-01 specifies a boron density of 0.126 gm/cm^2 for 0.177" material and 0.251 gm/cm^2 for 0.265" material.

However, Specification BPS-9000-01 states that the B^{10} content of the total boron in the boron carbide shall be 19.45%.

Therefore, B^{10} areal densities of normal sized Boral sheets are 19.45% X 0.126 gm/cm^2 = 0.0245 gm B^{10}/cm^2 for 0.177" material, and 19.45% X 0.251 gm/cm^2 = 0.0488 gm B^{10}/cm^2 for 0.265" material.

Is AAR Brooks and Perkins supplying a special Boral sheet? Do they have a specification for this? If not, who is assuring the product?

Response: The thickness and density specifications noted in the technical specification amendment request are accurate. AAR Brooks and Perkins is the supplier of the Boral panels for the Fort Calhoun Station (FCS) rerack project under their Specification BPS-9000-02, instead of BPS-9000-01. BPS-9000-02 is the specification which meets the technical requirements of the FCS rerack project, and is referenced in the purchase specifications for the procurement of the Boral neutron absorber material. OPPD is not directly purchasing the Boral from AAR Brooks and Perkins; the materials are being procured through OPPD's contractor, Holtec International. Holtec is purchasing the Boral neutron absorber material through Holtec Purchase Specification PS-20330-1. This specification states that applicable AAR Brooks and Perkins manufacturing procedures for assuring the product quality have been approved by Holtec for implementation in the FCS project. Applicable procedures have been independently approved by OPPD. The OPPD/Holtec contractual documents require compliance with the Holtec specifications as well as the requirements of 10 CFR 50 Appendix B and 10 CFR 21.