



B&W FUEL COMPANY

An American Company with Worldwide Resources

BW

P.O. Box 11646
Lynchburg, VA 24506-1646
Telephone: 804-522-6000

August 18, 1992

Charles E. MacDonald, Chief
Transportation Branch
Division of Safeguards
and Transportation, NMSS
United States Nuclear Regulatory
Commission
Washington D.C., 20555

Dear Mr. MacDonald:

REFERENCE: Docket 71-6206, USA/6206/AF

B&W Fuel Company's (BWFC) Commercial Nuclear Fuel Plant (CNFP) submitted an application to increase the enrichment from 4.1 wt% to 4.6 wt% for the packaging referenced above. Bernie White questioned the discrepancy between the total uranium and U-235 maximum loading depicted in tables 5 and 6 versus the calculated U-235 loading for 4.6 wt%. He also pointed out that the maximum U-235 loading for the Connecticut Yankee fuel assembly was not addressed in table 6. BWFC's response to both of his concerns are addressed below.

QUESTION: The use of the fuel assembly loading, Kg/U, from Table 5 of the current application and the proposed maximum enrichment of 4.60% does not generate the same maximum U-235 loading per fuel assembly as given in Table 6 of the same application. What is the explanation?

RESPONSE: Table 5 contains fuel assembly and fuel lattice design data for the BWFC product line. The fuel assembly design uranium loadings given in Table 5 may fluctuate because of design choices made for fuel rod active stack length, fuel pellet density and fuel pellet end dish and chamfer designs.

Table 6 contains fuel assembly and fuel lattice data selected to provide conservative calculated fuel assembly reactivities for the shipping container license application. The maximum U-235 loadings listed in Table 6 were generated from the lattice parameter

010007
9208210116 920818
PDR ADOCK 07106206
C PDR

NT01
1/9

values listed in Table 6. For example, in generating the maximum U-235 loadings in Table 6, the maximum possible active length was used, the highest expected fuel pellet density was used, and no allowance was taken for fuel pellet right circular cylinder volume reduction that may exist for mechanical design and manufacturing purposes.

QUESTION: Why is data for the Connecticut Yankee fuel assembly design omitted from Table 6?

RESPONSE: The lack of data was an oversight on our part, an expanded Table 6 that includes the Connecticut Yankee fuel assembly design data is attached.

We hope that you find the explanation for your concerns satisfactory. If you should have any more questions, please feel free to contact me.

Sincerely,

B&W FUEL COMPANY
COMMERCIAL NUCLEAR FUEL PLANT

Kathryn S. Knapp

Kathryn S. Knapp
Manager, Safety & Licensing

Table 6

Fuel Assembly Maximum Uranium-235 Loading

	MkB 15x15	MkB 17x17	MkBW 15x15	MkBW 17x17	Conn Yank 15x15
Maximum U-235 LOADING, KG	22.41	21.98	21.26	21.38	17.43

Parameters Used to Establish Maximum U-235 Loading

Enrichment, E	4.60	4.60	4.60	4.60	4.60
No. fuel rods	208	264	204	264	204
No. lattice cells	225	289	225	289	225
Fuel pellet O.D., in.	0.3686	0.324	0.3625	0.3195	0.361
Pellet density, %TD	96.3	96.3	96.3	96.3	96.3
Active fuel stack length, in.	144	144	144	144	119