

March 15, 2005

Mr. Charles M. Vaughan, Manager
Facility Licensing
Global Nuclear Fuel - Americas, L.L.C.
P.O. Box 780
Wilmington, NC 28402

SUBJECT: CERTIFICATE OF COMPLIANCE NO. 4986 FOR THE MODEL NO. RA-3
PACKAGE - REQUEST FOR ADDITIONAL INFORMATION

Dear Mr. Vaughan:

This letter refers to your application dated January 21, 2004, as supplemented December 3, 2004, requesting amendment of Certificate of Compliance No. 4986 for the Model No. RA-3 Package.

In connection with our review, we need the information identified in the enclosure to this letter. Additional information requested by this letter should be submitted in the form of revised pages. To assist us in scheduling staff review of your response, we request that you provide this information by April 18, 2005. If you are unable to provide a response by that date, our review may be delayed.

If you have any questions regarding this matter, we would be pleased to meet with you and your staff. I may be contacted at (301) 415-8500.

Sincerely,

/RA/

José R. Cuadrado, Project Engineer
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-4986
TAC No. L23695

Enclosure: Request for Additional Information

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* See Previous Concurrence

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Request for Additional Information

Docket No. 71-4986 Model No. RA-3 Package Certificate of Compliance No. 4986

By application dated January 21, 2004, as supplemented December 3, 2004, Global Nuclear Fuel-Americas, LLC (GNF-A) requested amendment of Certificate of Compliance No. 4986 for the Model No. RA-3 package. This request identifies additional information needed by the U.S. Nuclear Regulatory Commission (NRC) staff in connection with its review of the application. NUREG-1609, "Standard Review Plan for Transportation Packages for Radioactive Material" was used by the staff in its review of the application. This request describes information needed by the staff for it to complete its review of the application and to determine whether the applicant has demonstrated compliance with regulatory requirements. The requested information is listed by chapter number and title in NUREG-1609.

6 CRITICALITY

- 6-1 Justify the assumed fuel assembly positioning within the RA3 basket cells for the analysis of the damaged package array case.

In the current analysis, the fuel assemblies are nearly centered vertically and horizontally in the individual RA3 basket cells. No analysis was performed to determine the most reactive positioning of the assemblies within the basket. It is noted that in a previous amendment, some analysis of assembly positioning had been performed; however, it did not include modeling the assemblies placed at the maximum horizontal separation from each other (within the basket). Staff calculations indicate that the positioning used in the current analysis is not the most reactive for the damaged array case. Justification for the assumed assembly positioning in the current analysis should include an analysis of various assembly positions, including maximum horizontal separation, to demonstrate that the most reactive positioning of the assemblies has been identified. A discussion of any other bases for selecting the assembly positioning should also be included.

This information is needed to confirm compliance with 10 CFR 71.59.

- 6-2 Specify whether or not the partial length rods in the fuel assembly may include any of the assembly's Gadolinia-Urania rods.

The applicant states that a fuel assembly may have partial length rods. The applicant's analysis assumes all the partial rods to be fuel rods that don't contain Gadolinia. However, it is not clear from the application whether the partial length rods may or may not include any Gadolinia-Urania rods. If Gadolinia-Urania rods may be included in an assembly's partial length rods, the criticality analysis should account for the effect on k-effective.

This information is needed to confirm compliance with 10 CFR 71.55(e) and 71.59.