



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

APR 22 1981

FCTC:RHO  
71-9013

U. S. Department of Agriculture  
ATTN: Mr. Robert D. Jarrett  
Radiological Safety Staff  
Beltsville, MD 20705



Gentlemen:

This refers to your application dated February 5, 1981 requesting approval of the Model Nos. 520 and 521 packagings.

In connection with our review, we need the information identified in the enclosure to this letter.

Please advise us within thirty (30) days from the date of this letter when this information will be provided. The additional information requested by this letter should be submitted in the form of revised pages to the safety analysis. If you have any questions regarding this matter, we would be pleased to meet with you and your staff.

Sincerely,

*Charles E. MacDonald*  
Charles E. MacDonald, Chief  
Transportation Certification Branch  
Division of Fuel Cycle and  
Material Safety, NMSS

Enclosure: As stated

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Model Nos. 520 and 521  
Docket No. 71-9013

1. Provide legible drawings which show materials of construction, dimensions, welds, and closures significant to safety. These values and materials should correspond to those described in the safety analysis report and the packaging as fabricated.
2. Shear stresses should be included in the tie-down stress calculations.
3. Puncture analysis should be revised to take into account the minimum elongation of 21-25% for ASTM A516, Grade 60 material. The formula used in the analysis has a requirement of greater than 40% ultimate elongation for the equation to be valid.
4. During a flat 30-foot drop impact on the cask end, the lead is subject to high flow stress due to impact. Demonstrate that the outer carbon steel shell will stay intact under such a high internal pressure during impact.
5. Provide reference or derivation for the equation used for the contact area calculation in the corner drop. Revise subsequent calculations and determine the effect on the packaging.
6. Demonstrate that the effectiveness of the thermal shield is not significantly reduced after the 30-foot drop and puncture tests. Show that no significant quantity of lead will melt during the hypothetical accident sequence.