PDR

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

DEC 27 1978

FCTR:WHL
71-5552

U.S. Department of Energy
ATTN: Dr. William E. Mott
Washington, DC 20545

Gentlemen:

This refers to your letter dated July 31, 1978, requesting our review of the Model Gas Cylinder Fire Impact Shield package.

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

Please advise us when this information will be provided.

Sincerely,

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

Enclosure: As stated

cc: DOE, Oak Ridge Operations Office
ATTN: Mr. William H. Travis
P.O. Box E
Oak Ridge, TN 37830

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Model Gas Cylinder Fire Impact
Shield Package
71-5552

Enclosure to ltr dtd: DEC 27 1978

DRAWINGS AND SPECIFICATIONS

1. Provide drawings or specifications for the primary containment vessel. The drawings or specifications should identify all significant safety features, such as: dimensions, materials of construction, welds, seals and valves.

2. Provide drawing or specifications to identify the various lead shield configurations proposed for this package.

STRUCTURAL/CONTAINMENT

1. Evaluate the performance of the impact shield lid closure design for the 30 foot drop test. We note that the protective overpack used for comparison (Appendix B of Report No. ORNL/ENG/TM-5, Oct. 1977) is similar, but has a much different lid closure design.

2. Evaluate the effects of the 30 foot free fall test on the primary containment vessel. Determine the containment capabilities of the package for the accident damage conditions, and normal conditions of transport. Regulatory Guide 7.4 may be used to establish containment criteria, and to provide a method of demonstrating acceptability.

SHIELDING

1. Show that the shielding effectiveness of any proposed lead shield configurations are not substantially reduced as a result of the normal conditions of transport.

2. Show that the requirements of 10 CFR §71.36(a)(1) are met for any proposed lead shield configurations.

TESTING AND MAINTENANCE

Provide a containment testing and maintenance program. Tests should include initial, periodic and preshipment containment tests. A maintenance schedule for inspection, testing and component replacement should be provided.

Regulatory Guide 7.4 may be used for establishing containment tests before first use and for periodic testing. For assembly verification it is recommended that a test of sufficient sensitivity to limit the maximum release to a Type A quantity in 10 days be used, however, a leak test sensitivity greater than 1×10^{-3} atm-cm^3/sec, would not be required. The minimum sensitivity of 1×10^{-1} atm-cm^3/sec (air at 1 atm and 25°C leaking to a 10^{-2} atm ambient) as specified in ANSI N14.5 should be met.