



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

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IN REPLY REFER TO.

LR;JL
70-146

OCT 26 1961

Spencer Chemical Company
Dwight Building
Kansas City 5, Missouri

Attention: Mr. N. A. Greenlee

Gentlemen:

In view of the pending changes in the corporate structure of your company, which may necessitate the transfer of your present licenses to another corporate entity, we have reevaluated the scope of your present authority as well as your pending application dated September 20, 1961.

Your Special Nuclear Material License No. SNM-154, as amended September 11, 1961, included authorization to ship ceramic UO₂ at enrichments up to and including six per cent (6%) U-235 in accordance with procedures submitted in your application dated August 3, 1961. Your application dated September 20, 1961, requested amendment of this license to authorize the shipping of fused UO₂ at enrichments up to and including five per cent (5) U-235.

In both applications the safe container capacity principle was used to justify the nuclear safety of the proposed shipments. The safe container capacity principle incorporates a nuclear safety factor of 1.33. However, in order to maintain this factor of safety it is necessary that the package containing the special nuclear material be of sufficient structural integrity to retain the special nuclear material in the event of an accident. Accordingly, we require the material to be packaged in inner containers meeting the following specifications:

1. Resistance to crushing and fracture shall be at least equivalent to that provided by Schedule 40 steel pipe.
2. The bottom shall be equivalent to a steel plate, at least equal in thickness to the wall of the pipe, welded or threaded to the bottom of the container.

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3. The top closure shall be equivalent in strength and leaktightness to the container itself. A properly designed flanged and gasketed cover would meet this requirement.

The use of light gauge metal pails for inner-containers, as described in your application of September 20, 1961, does not meet these packaging specifications; therefore, your application of that date is hereby denied without prejudice to the resubmission of a new application which takes into account the packaging requirements outlined above for those shipments where nuclear safety is based upon safe container capacity limits.

Further, we find upon review of shipping procedures in your Locket 70-116 that the use of such pails was previously requested in your application dated August 3, 1961, with nuclear safety based on the safe container capacity principle, and was authorized by amendment to your license 384-154 on September 11, 1961. Since this authorization is no longer compatible with the safe-packaging criteria specified above, please advise us within thirty (30) days from the date of this letter of your plans for modification of this shipping container to take into account the packaging specifications outlined above.

FOR THE ATOMIC ENERGY COMMISSION

Lvall Johnson
Assistant Director for
Materials Licensing
Division of Licensing and Regulation

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