MALLINCKRODT
NUCLEAR
CORPORATION

SAINT LOUIS 7, MISSOURI · U.S.A. · CENTRAL 1-8980

DOCKET NO. 70-36
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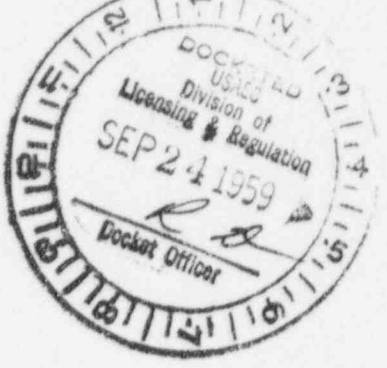
September 22, 1959



Mr. Lyall Johnson
Licensing Branch
Division of Licensing & Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

SUBJECT: Special Nuclear Material License No. SNM-33

Dear Mr. Johnson:

This letter is a request for an extension of our Special Nuclear Material License No. 33. We expect in the next several months to be shipping both high density UO_2 powder and fully enriched UO_2 pellets. We are anxious to receive approval on the manner of shipment of these in order to modify our present birdcages to ship in the manner described below.

For the shipment of the fully enriched, high density UO_2 we propose to use the "safe" diameter of 3 inches described in TID 7016 (Page 8, Table 3) for U^{235} at full density with nominal reflection (~1 inch water). The approximately 4" thick spacing of styrofoam around the central 3" hole will have a hydrogen density of only about 10% of water and is therefore considered to be a poorer reflector than 1 inch of water.

The high density powder will be settled in a metal container which will then fit in the center of a 3 inch diameter hole cut in the styrofoam blocks of our standard pellet shipping container. This standard container is fully described in our letter of June 29, 1959. The hole, which will be 3 inches in diameter, will be located similarly to the 7.8 inch diameter hole of that communication for the shipment of pellets.

The individual pellets will be rolled into open-faced corrugated boxboard, overwrapped with paper and taped. One so constituted 3" diameter "sausage" will be placed in each shipping container.

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FORM 7372

MALLINCKRODT NUCLEAR CORPORATION
St. Louis

No further interaction calculations should be required for this manner of shipping since the container spacing remains the same and the diameter of active material is now reduced from 7.8 to 3 inches.

Please do not hesitate to wire or call collect if we can provide additional information.

Very truly yours,

MALLINCKRODT NUCLEAR CORPORATION

G. W. Tompkin

G. W. Tompkin, Manager
Research & Development

GWT/lo