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MALLINCKRODT CHEMICAL WORKS

We have reviewed the Mallinckrodt application dated November 17, 1960 requesting approval of shipping procedures for uranium metal and compounds.

The container referred to is essentially a standard 20 inch ABC birdcage with the standard inner container. Additional angle iron will be added to the birdcage effectively to prevent telescoping of other containers into the birdcage.

For metal shipments a maximum of 11 kg U-235 in the form of whole biscuits will be loaded into one container. For broken biscuits Mallinckrodt proposes that the permissible mass be determined from Figure 7 of LA-1958, and incorporating a safety factor of 2.3. We have no objection to the 11 kg mass limit for whole biscuits of any enrichment, but we can recommend approval of the proposed plan for broken biscuits only when the uranium is fully enriched and unalloyed. Mallinckrodt should be cautioned never to use Figure 7 of LA-1958 for any metal other than fully enriched unalloyed uranium.

The amounts of uranium compounds in each container will be limited to a safe volume assuming optimum moderation. Because of the strength and integrity of the inner container, we see no objection to this proposal.

Mallinckrodt proposes to ship the materials by air, LTL, ICL or railway express. Although in this instance few containers will be involved in any one shipment, it will be necessary that Mallinckrodt guard against commingling enroute, such as by obtaining a certification from the carrier to that effect, just as they have been doing for other shipments during the past year.

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