

*Office Memo: Indiana* • UNITED STATES GOVERNMENT

TO : Lyall Johnson, Chief  
Licensing Branch

DATE:

FROM : Clifford K. Beck, Chief  
Hazards Evaluation Branch

SUBJECT: MALLINCKRODT NUCLEAR CORPORATION

11/15/61

We have reviewed the November 13, 1959, telegram from Mallinckrodt requesting an additional 90-day extension of temporary approval of shipping procedures for low enriched (approximately 4%) oxide.

Temporary approval has been given for several Mallinckrodt shipments over the past twelve months, pending our final review and approval of acceptable shipping procedures. Specifically, we have not been able to approve the Mallinckrodt shipping containers for the following reasons:

- a. We do not believe that the proposed shipping containers have the requisite mechanical integrity and water tightness to permit assurance of moderation control.
- b. The Mallinckrodt shipping procedures do not meet acceptable interaction criteria.
- c. The 5-gallon inner containers are oversize for the quantities of UO<sub>2</sub> (enriched between 3 and 10%) in the individual shipping units, and thus there is a possibility of error in loading the containers.
- d. Mallinckrodt proposes shipment by LCL or LCT, and there is no assurance that the carrier will not load other special nuclear material on the same vehicle, or assemble the shipment with other material at points of transhipment or delivery.

Until these issues are resolved, and final approval given to the Mallinckrodt shipping procedures, we believe that no further temporary approvals be extended.

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Lyall Johnson, Chief  
Licensing Branch

Clifford K. Beck, Chief  
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