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Licensing Branch

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MALLINCKRODT CHEMICAL WORKS

C.D. Luke
Project ~~273~~ *SAM-8*
Docket 70-35

12-16-58

We have reviewed the October 31, 1958, request of Mallinckrodt Chemical Works, and the additional information submitted on November 14, for AEC approval of two shipping containers.

The two containers were (1) a 5 gallon drum braced in a 55 gallon "shorty" drum and (2) a 15 gallon drum in a special 88 gallon outer container. Mallinckrodt proposes to ship quantities of enriched uranium oxide in their containers which, if shipped singly, would be acceptable from the standpoint of criticality. However, the applicant proposes to ship these containers close together and stacked three high. In answer to our request (phone call Beck to Leaders) Mallinckrodt in their letter of November 14, 1958, furnished computations in justification of their proposal. These calculations, appropriately based on solid angle calculations, assumed a k_{eff} of 0.3 for UO_2 in the quantities and enrichments specified.

We find no basis on which the value of 0.3 for k_{eff} has been determined, and ask that you request Mallinckrodt to furnish calculations or observations used in computing k_{eff} , together with appropriate references.

HEB:DL&R

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CDLuke:mma
12/15/58

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