

UNITED STATES GOVERNMENT

Memorandum

TO : Lyall E. Johnson, Chief
Licensing Branch

FROM : Edson G. Case, Acting Chief
Hazard Evaluation Branch

SUBJECT: MALLINCKRODT NUCLEAR CORP.

DATE: MAY 18 1960

We have reviewed the Mallinckrodt application dated March 3, 1960, requesting approval of shipping procedures for uranium compounds having a maximum enrichment of 10%.

The shipping container is a 5-gallon pail braced with angle iron supports inside a 55-gallon "shorty" drum. During previous reviews, dating back to December 16, 1958, we have been unable to approve previous applications for this type container because of spacing inadequacy and because the inner container would not be substantially filled with material in the higher enrichment range. Mallinckrodt has now overcome these objections. Additional edge-to-edge spacing is provided by a steel skirt welded around each 55-gallon drum, to provide an overall diameter of 27". Stacking of the 55-gallon drums will be prevented by welding an angle-iron pyramid to the top of each drum. The higher enriched material, for which the volume is much less than that of a 5-gallon pail, will be packaged in a metal can or polyethylene bottle which is packed in the 5-gallon pail with vermiculite.

The shipping container is now appropriate for mass limited quantities (Table II, TID-7019) and spacing is such that the solid angle criterion for a planar array of 24 drums is satisfied. The applicant will obtain certification from the carrier that no other SNM will be combined enroute with the Mallinckrodt shipment.

We recommend approval of the March 3 application.

7-29

Lyall E. Johnson, Chief
Licensing Branch

Project S-3
Docket 70-3b

Edson G. Case, Acting Chief
Hazards Evaluation Branch

MALLINCKRODT NUCLEAR CORP.

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The shipping container is now appropriate for mass limited quantities (Table XI, YID-7019) and spacing is such that the 45 degree criterion for a planar array of 24 drums is satisfied. The applicant will obtain certification from the carrier that no other UHM will be combined enroute with the Mallinckrodt shipment.

We recommend approval of the March 3 application.

OFFICE	HEB:DL&R	HEB:DL&R				
SURNAME	CDLuke:alp	EGCase				
DATE	5/18/60	5/18/60				

NUCLEAR MATERIAL DRAFT

23-2500-218

Name of Material Representative and Address: McLennan Nuclear Corp. 1000	IDENTIFICATION NO. 7100-02-23-DCA-161(25) ON OR ABOUT (Date of Delivery): 4th Quarter FY 60
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THE FOLLOWING NUCLEAR MATERIAL:

DESCRIPTION AND NOTES

1. Approx. 15.6 kg U²³⁵, enriched to 4% U-235 content
 2. Approx. 20 kg U²³⁵, enriched to 8% U-235 content
- Total U-235 content of above approx. 3.02 kg

~~McLennan Nuclear Corp.~~
~~...~~

CONCURRENCE:

M.K. Kellogg

 Director

J. G. Delaney, Chief, Nuclear Materials Licencing Div., Div. of L&R Headquarters Division Director	<p style="text-align: center;"> <i>10</i> <i>5/19/60</i> </p> <p style="text-align: center;"> CERTIFIED I HEREBY CERTIFY THAT THE ABOVE QUANTITY WILL NOT EXCEED MATERIAL APPROVED FOR THIS DIVISION AND THAT THE <i>for D. J. Carney</i> Director, Division of Nuclear Materials Management </p>
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NUCLEAR MATERIAL DRAFT

10-2511-212

Name of Licensee or Representative and Address

General Atomics Nuclear Corp.
1700 Walnut St.
Philadelphia, Pa.

IDENTIFICATION NO.

7100-87-33-DCA-161(25)

ON OR ABOUT (Date of Delivery)

4th Quarter FY 60

THE FOLLOWING NUCLEAR MATERIAL:

DESCRIPTION AND NOTES

1. Approx. 15.6 kg U₂, enriched to 4% U-235 content
 2. Approx. 23 kg U₂, enriched to 8% U-235 content
- Total U-235 content of above approx. 3.02 kg

~~General Atomics Nuclear Corp.~~
~~Philadelphia, Pa.~~

CONCURRENCE:

M.H. Kellogg

Licensee

CERTIFIED

I HEREBY CERTIFY THAT THE ABOVE QUANTITY WILL NOT EXCEED MATERIAL APPROVED FOR THIS DIVISION FOR FISCAL YEAR 1960

for D. T. Kearney

Director, Division of Nuclear Materials Management

Director, Division of Nuclear Materials Management

MAY

JD
5/19/60
J. G. Delaney, Chief, Nuclear Materials
Sec., Licensing Br., Div. of L&R
Headquarters Division Director

DIVISION OF NUCLEAR MATERIALS MANAGEMENT